THE BUILDER

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WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."

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THE ROYAL COMMISSION ON BRIDGES

WHILE it may be a little premature to speak of the second battle of Waterloo as a complete victory until the decision has been arrived at in regard to the proposed widening, the contention between the London County Council and the artistic societies has produced results of almost greater importance in securing unimpeachable pronouncements in favour of a bridge at Charing Cross and against that at St. Paul's.

Charing Cross bridge remained an impalpable dream so long as the powers in possession, the Southern Railway, were disinclined to negotiate, and no one else seemed desirous of embarking on negotiations with this concern, even if these were feasible. The prestige attaching to a Royal Commission and the obviously disinterested position of this body has enabled it to open up relations with the railway, and secure the co-operation essential to the inception of a sound scheme. For some time there has been a general feeling that a double-decked bridge might solve the problem by providing for both road and rail traffic. Captain Swinton prepared a plan, not only including this, but dividing the road, so that one branch served the Strand and the other continued over it northward; but there still remained a doubt whether a double bridge could be designed in scale with the surroundings and of pleasant proportions. The Commission is satisfied that this can be done and recommends the adoption of a scheme on these lines.

Thus, apart from the financial details, the question of constructing a bridge at Charing Cross seems to have advanced, at one bound, from a somewhat nebulous proposal to a definite position in the programme of London improvements. It could hardly be expected that the Commission, considering the wide scope of its terms of reference, should have been able to bring the details of this particular scheme to a point placing them beyond criticism, and it must be candidly admitted that the treatment of the approaches on both sides of the river demands further study; nor does the tacit acceptance of the Ministry of Transport's proposed ring road on the Surrey side seem justified on its merits. At the same time, the main principles on which the scheme is based appear reasonable, and there will be no lack of opportunity for reviewing the details.

Returning to Waterloo Bridge, we find that the Commission has felt that the arguments in favour of providing for four lines of traffic could not be resisted, and, as those speaking for river traffic were strongly against increasing the general width, somewhat reluctantly agreed that the footpaths should be corbelled out. Four schemes for this are illustrated in the report, two of which we give, *i.e.*, those by Sir Reginald Blomfield, and Mr. Maurice Webb; but no opinion is offered as to the relative merits of these, it being considered more appropriate that a matter of this kind should be referred to the judgment of the Royal Fine Arts Commission. Probably architects will be unanimous in wishing that it had been found possible to advise the retention of the bridge on the old lines, and it would be interesting to speculate as to the procedure of the Fine Art Commission in face of a decision with which it is unlikely that they can sympathise. Might it not have been suggested, as a wiser course, that any alteration might be reserved till after the construction of Charing Cross bridge, which may have the effect of rendering this widening superfluous?

Having condemned the bridge at St. Paul's, as offering no solution of the traffic problem in the City, the Royal Commission felt impelled to offer a suitable alternative route. It did not find that anything could be done for Southwark Bridge, and, looking farther west, has devised a plan which is extremely ingenious and has a good many points in its favour. Starting from Great Suffolk-street, Southwark, the road keeps close to the east side of the railway to Holborn Viaduct Station at approximately the same level, so that it would give a good line of communication between Holborn and the Borough, passing over Queen Victoria-street and Ludgate-hill, while the continuation to Islington is provided for by Giltspur-street and Long-lane (widened) to Aldersgate-street. This northern route is less direct than it would be if carried into St. John's-street; but Smithfield Market blocks the way to this, though the alternative of a spar road carried over Holborn, Snow Hill and the Market on a viaduct might be worth consideration. In any case, the line suggested has the merits of keeping the river more open, of clearing the crossing at Ludgate-hill, and of offering, though a longer, what would probably be a quicker, route between North and South London.

The report deals more briefly with proposals for improvement farther afield. It is substantially in agreement with the line of route demanded by the Western Exits of the London Society, including bridges near the "Crabtree" and at Chiswick; and it approves in the main the proposals of the Ministry of Transport for other bridges and tunnels, making an exception in the case of Lambeth Bridge, in regard to which it supports the view of the Port of London Authority that the bridge should be re-designed to give more headway.

An interesting hint is given as to the development of the Surrey side. It is observed that such a project as Charing Cross Bridge cannot be without its influence on the development of this area, and that it would be opportune to make fresh plans for improvements here. Our older readers cannot fail to remember the unremitting support we have given to this claim in the years before the war, and, allowing for the drastic change in conditions since then, how noticeably some of our studies foreshadow the ideas now being brought to the fore.*

To many the most gratifying feature of the report is that going beyond the programme of what ought to be done; it also indicates by what means these large undertakings should be carried out. First it visualizes the fact that there must be a "Central Authority," and suggests that the London and Home Counties Traffic Advisory Committee should be empowered to act in this capacity, giving the question of cross-river traffic continuous study. Next comes the matter of Finance. The estimates for the various works recommended amount altogether to £27,500,000, a figure rather on the high side as far as it is possible to analyse it in detail; but accepting it as correct, the suggestion is that £19,000,000 should be provided by a sixty years' loan for which the annual service would be about £1,000,000 to be provided out of the Road Fund; then contributions from the Bridge House Estate and other sources may be expected, so that there would not be a very formidable balance falling on the shoulders of the local authorities; and it would be a matter for negotiation between them and the Central Authority as to what proportion of the cost of each scheme should be borne by the various bodies concerned.

The members of this Royal Commission are to be complimented on the successful completion of so arduous and difficult a task in an exceptionally short period of time. It is gratifying to obtain such a comprehensive consideration of many urgent problems from a body of this character.

* January 6th, 1911; January 5th, 1912.

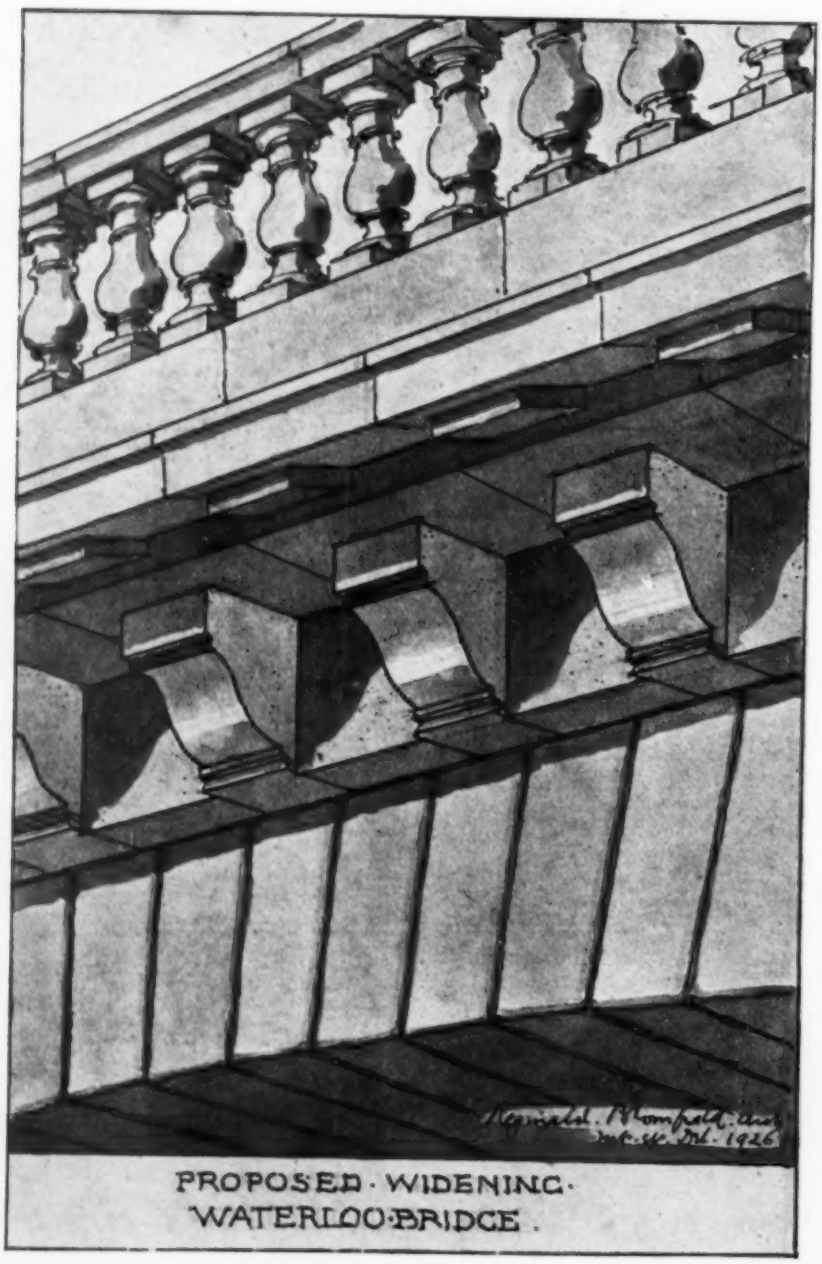
NOTES

The Registration Bill.

FURTHER evidence of the agreement among architects on the question of the registration of the profession was afforded at the meeting on Monday, when the draft Bill for Registration was discussed at a general meeting of the Institute at No. 9, Conduit-street, and agreed to unanimously. Some minor amendments were made which in no way affected the principle of the Bill, the acceptance of which appeared to be a foregone conclusion. There can be little or no doubt that the vast majority of the profession are in favour of the registration of architects by Act of Parliament, not so much because of any advantage it may give to any individual in practice at the present time, but because of a conviction that a general improvement in the art of architecture cannot be brought about unless those who practise are competent to do so.

The Thames Vista.

Apropos of the report of the Royal Commission on Bridges, a correspondent writes: "If the report of the Royal Commission is adopted we may say good-bye to the fine open perspective of the Thames which might remain one of the most beautiful river prospects in Europe if the lower level bridges had been adopted. With the creation of a southern embankment similar to that on the north side the river vistas with low-level bridges would have been magnificent. Imagination will apparently never be a quality to be counted amongst the assets of the English people. What will be the wondrous charms to be created under the spreading arms of the new high level bridges? Shut out from the light of heaven these unhappy spaces may serve as drinking saloons or storage cellars. But the detriment caused to neighbouring property should be quite a considerable asset of cost on the completion of the road viaducts."



Perspective drawing showing Sir Reginald Blomfield's proposal for widening.

The A.A. Conversazione.

THE activities of the Architectural Association are so well known that it is always a pleasure to attend any of their functions. The conversazione which took place on the Thursday of last week at 34–35, Bedford-square, was an exceptionally cheery and well-attended "show." Following a reception by the President, Mr. J. Alan Slater, and Mrs. Slater, the six hundred odd guests inspected the exhibition of members' holiday sketches—many of which were of considerable merit and interest—and also the exhibition of work of past-Presidents. There was also on view some of the students' year's work, while their many and varied-hued posters advertising the A.A. pantomime, "Cylinderella," whose last night is this evening, adorned the walls of the lecture-room. Here all the younger spirits—and a good many of the older ones too—took part in a dance until past one in the morning. It was altogether an exceptionally pleasant evening.

The Ugly House.

THE pursuers of the ugly house are being increased every day. We find Mr. Robert Lynd, in his latest book of essays, "The Little Angel" (Methuen & Co.) dealing in his own charming way with the ravages of the local builder. Time was when Mr. Lynd, in an earlier book, told us to our disappointment that he was never the sort of person to fall in love with a house in the best of circumstances. "I like places, and I like people, but neither the outside nor the inside of any house matters enough for me to cause me an ache at leaving. I had rather have a house with a view than a house that is itself a view." Unfortunately, too many of us thought the same way, and Nemesis has overtaken us.

Changes.

HEAR Mr. Lynd to-day when he returns to an old village: "A street has been widened, a village shop with little old-fashioned window-frames has been taken over and fronted with plate-glass by some universal provider, a new tenant occupies the farm and has built a new gate or roofed the outhouses with corrugated iron, or cut down the trees. Everywhere it is a good world for builders and house agents and innovators of all sorts, and we ordinary men and women suffer for it. The builder has his uses; but why does he always build in the wrong places? The new generation, everyone agrees, must be housed, but I have never heard of a case in which it ought not to have been housed somewhere else. Except, perhaps, in the fields immediately contiguous to railway stations. Any other field we have known for a long time is too good to be built on." In a humorous vein he discusses the things that have been punishable as crimes by the laws of various nations, and wonders why no one ever thought of making building a crime. "When the world becomes civilised," he says, "it will be more

difficult to become a builder than to become a doctor."

Amateur Theatricals at University College.

ON Tuesday evening last we had the pleasure of witnessing the first of two performances of that amusing comedy, "The Rising Generation," given on behalf of University College Centenary Appeal by architectural students of London University. The performance, which was given in the College Gymnasium, was an excellent one in every respect, and would have done no discredit to a professional company. It was obvious that the play had been thoroughly rehearsed; every point was neatly made, and the acting and elocution generally were maintained at a consistently high level. A word of praise is due to the designer of the stage set, Mr. Deane Anderson, who contrived a very successful interior on simple lines, set off with some rich colouring. Among the mural adornments we noticed a clever caricature of the Professor of Architecture. During the evening the Gymnasium Orchestra played selections of popular music. If the architectural students of University College are as successful in their serious moments as they are in their lighter interludes (and we have evidence that they are) then we need not fear for the quality of our future architecture. Where all the performers were excellent it would be invidious to single out any one for special mention, so we content ourselves with giving (on page 980) a full list of those who took part in the performance.

The A.A. Pantomime.

"CYLINDERELLA," the story of "Flo and Return," was produced on Monday night at Bedford-square by the Architectural Association. This version of "Cinderella" among the architects—grim fate—is a most ambitious effort, but unlike the usual run of amateur performances, amply justifies itself, if its enthusiastic reception counts for anything. It is good enough to allow of criticism of its weak points as well as for appreciation of its successes. To deal first with the former, it seemed to us that the "book," though good in technique,

Chateau of Fontaine-Henri, near Caen.

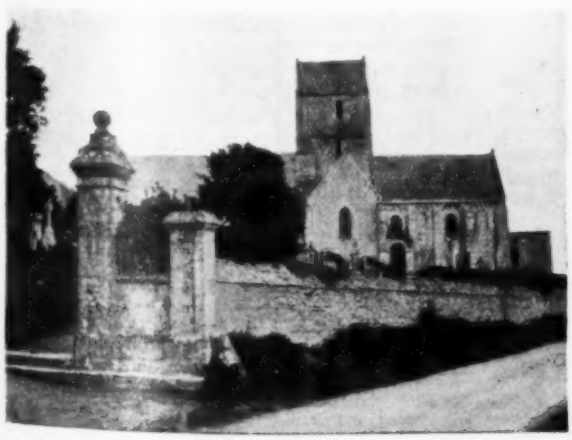
was a little deficient in humour, although Mr. A. B. Grayson's performance—should we call it *display?*—as the coy and Malapropistic "Widow Tubes," was almost entirely successful in concealing this. The singing of the principals and chorus was also a little thin. Against these criticisms, however, must be set the enthusiasm and performances of the players. In particular, we noticed Miss Thelma Henderson and Mr. D. D. Robinson, the latter delightfully satanic; Miss Frances Buckland as "Return," the Wicked Sister; while Miss Carmen Dillon and Mr. C. D. Hill, as "Cylinderella" and the "Prince" respectively, gave a very natural performance together and danced delightfully. The chorus did very well indeed while the music of Messrs. L. E. C. Simpson and Philip Cardew, with lyrics by Mr. Stephen Noel Bertram, was uniformly good, "Lonely To-night" and "Look Snappy" being particularly bright efforts. The play contained several topical "hits" which the audience appreciated greatly, especially that of a parade of the architect's "bogeys," amongst them the spectre of the London Building Act. The zest and enthusiasm of all concerned and the excellence of the scenery and effects contributed greatly to the success of a show upon which Mr. H. S. M. Carver, the producer, is heartily to be congratulated.

Normandy Views.

REGARDING the tour of the Architectural Association in Normandy, we give a view of the west front of Lisieux Cathedral, shown in full afternoon June sunshine. A contrast, in its austere simplicity, is found in the little pure Romanesque Church of St. Come-de-Fresney, on the Calvados coast about eight miles north of Bayeux. This primitive church, in its low-walled "God's acre," ablaze with climbing roses, coral pink valerian and white marguerites, stands a mile away from the village on the down at the rise of the cliff path which leads on to Arromanches. It stands near the cliff edge in solitary and abiding peace, and for seven or eight centuries served as a sea mark for mariners crossing the Baie de la Seine, but is now superseded by the Phare-du-Ver on the one hand, and on the other by the monolithic statue of Notre-Dame-de-flots, on the cliff top by Arromanches. The fifteenth-sixteenth-century chateau of Fontaine-Henri, with its thirteenth-century chapel, is about six miles south-east in the direction of Caen.

The Critical Attitude.

No one afflicted with the critical attitude will fail to note that every point falls exactly into place in a theory of architectural criticism. The beginning and end of the whole subject is contained in these few observations. That we cannot escape from architecture would appear to be the soundest of reasons why it should be criticised severely; that the architect, without a client, can only produce drawings is a statement of his position as an artist as opposed to art-production, which is an individual expression; and that a building has a function to fulfil is a reminder that the owner has some say in the matter. If we were to attempt a summary of the salient points confronting the critic of architecture, we would unhesitatingly adopt these headings.



Romanesque Church, St. Come-de-Fresney, Calvados.

The Cathedral, Lisieux, Normandy.

GENERAL NEWS

Christmas Holiday.

Owing to the Christmas holiday we shall publish our next issue on Thursday, December 23. The latest time for receiving editorial copy is Tuesday, December 21.

Covent Garden.

With reference to the proposed removal of Covent Garden Market to the site of the Foundling Hospital and surrounding vicinity, it is understood that the Parliamentary agents of the Westminster City Council have been instructed to retain counsel in case it should be decided to oppose the Bill.

R.I.B.A. (Archibald Dawnay) Scholarships.

An exhibition of the work submitted in competition for the R.I.B.A. (Archibald Dawnay) Scholarships, the awards of which have recently been announced, will be held in the R.I.B.A. Galleries, from December 20 to 23, inclusive. The exhibition will be open between the hours of 10 a.m. and 8 p.m.

New Forth Bridge.

The survey in connection with the proposed road bridge over the Firth of Forth at Queensferry is proceeding satisfactorily, according to Sir Henry Maybury, of the Ministry of Transport. He is of the opinion that the bridging of the Forth at Queensferry would present no insurmountable difficulties from an engineering point of view. The bridge, he said, was the key to the problem of the East Coast traffic throughout Scotland.

Old Whitehall.

In the course of a letter to *The Times*, Mr. E. Grindlay says that some years since the Post Office acquired two "charming eighteenth-century houses on Richmond Green. There were fears that they might be sacrificed, but to the joy of many the houses were adapted to their new use, the outsides being left untouched, and the amenities suffered very little. Would it be possible in the case of Harrington House to adapt it to its new purpose, or at least to retain the façade and with it its memories and associations?"

Institution of Mechanical Engineers: Awards.

The following awards have been made by the council of the Institution of Mechanical Engineers for papers read before the graduates' sections of the Institution during the session 1925–26:—Mr. J. Price Walters, prize to the value of £5 for paper on "The Mechanical Equipment of Modern Electric Lifts"; Mr. Gerald Lyon, prize to the value of £4 for paper on "An Analysis of Tests on a High-Speed Petrol Engine"; and Mr. F. C. Johansen, prize to the value of £3 for paper on "Some Factors Affecting the Speed of Passenger Trains."

Dorsetshire Regiment Memorial.

The dedication of the screens erected by the Dorsetshire Regiment to the memory of fallen comrades took place recently in Sherborne Abbey, and associated with it was the ceremony of laying up the colours of the 1st Battalion, the 2nd Battalion, the 3rd Battalion (late Militia), the 2nd/4th Battalion, and the 5th and 6th Service Battalions. The memorial parclose screens bearing battle honours and heraldic shields enclose the ante-chapel of the Lady Chapel proper. The north screen commemorates the valour of 46 officers and 757 other ranks of the 6th Battalion. The south screen has been erected to the memory of the fallen of all battalions.

"Swakeleys."

While the National Trust are considering a scheme for the preservation of "Swakeleys," the seventeenth-century mansion at Ickenham, an offer has been received by the owner from a builder, who proposes to demolish the house. There is also a scheme under consideration for the conversion of the premises into flats. In connection with this scheme, the representatives of the National Trust are appealing to the rating authority to reduce the assessment for rates. The Trust points out that, if demolition is to be avoided, active steps will have to be taken in the course of the next few months. A fine example of the smaller Stuart red brick mansion, it was built by Sir Edmund Wright, Alderman of London (Lord Mayor in 1641) in 1638, and the date and his initials appear in several parts of the building. It stands in large well-wooded grounds.

The College of Estate Management.

The first of two lectures on "The Development of Building Estates" was given at the College of Estate Management, 35, Lincoln's Inn-fields, recently by Mr. F. Howkins, who, after pointing out the fundamental factors underlying the rapidity of development, gave statistics in relation to the house shortage which followed the war, and stated that in his opinion we were now at the end of these abnormal conditions. In the near future about 60,000 houses per annum would be required to meet a normal increase of population. The surveyor's duties to a speculative client were to buy in the right place at the right time and at the right price, and he described how this result was to be achieved.

Amateur Theatricals at University College.

As we record in our "Notes" pages, two very successful performances were given this week of "The Rising Generation" by architectural students of University College. Following is a complete list of those who took part in the performance:—Miss Beatrix Phillipson, Mr. William Penrose Thackwell, Mr. Philip Wailes, Mr. Edward Steel, Miss Margaret Gillett, Miss Pat Webster, Mr. George Lay, Mr. Hugh Crickmay, Miss Joan Richards, Miss Dorothy Norie, Mr. Eric Ambrose, Mr. Deane Anderson, Miss Edna Mills. The play was produced under the direction of Mr. Laurence King. Mr. Philip Wailes acted as Stage Manager, Mr. A. Llewelyn Smith was responsible for properties and acted as electrician, and Miss Annie E. Hall acted as business manager.

Birmingham Architectural Association.

Suggestions with regard to attractive shop fronts were made by Lieut.-Colonel H. P. Cart de Lafontaine, at a meeting of the Birmingham Architectural Association last Friday. It was realised, he said, that the services of architects were desirable in designing modern shop fronts. It was not always sufficiently realised that a shop front was seen in sharp perspective by the intending purchaser, and therefore it was important to design the building so as to afford variety in the elevation. Different trades required different treatment. For instance, the essential for a motor showroom was large area, while for a draper's establishment the essential was proportion of the whole to the display of goods. Illuminated signs as at present used were most deplorable, but they could easily be made objects of attraction. The use of colour in shop fronts was not sufficiently understood, and he considered greater use could be made of heraldry.

COMPETITION NEWS

Institution of Heating and Ventilating Engineers.

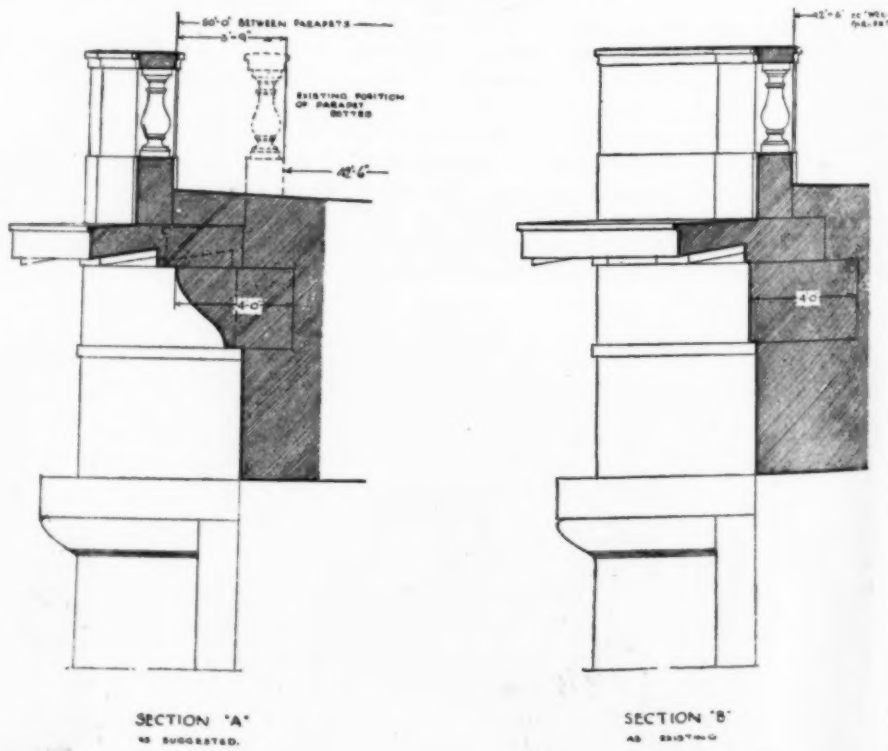
The Council of the Institution of Heating and Ventilating Engineers offer the following prizes for original papers on subjects connected with heating and ventilating during 1927: The British Commercial Gas Association Premium for the best paper on "The Use of Gas in Connection with Heating and Ventilating." (£10 10s.). The Sirocco Premiums for the best papers submitted dealing with ventilation and the general application of fans, air washing, air conditioning, dust and fume removal, mechanical draught, &c. (First premium, £6 6s.; second premium, £4 4s.). The London Premium for the best paper submitted dealing with, or any subject connected with heating or hot-water supplies. (£5 5s.). The winning of an award may carry with it a medal of the Institution.

Full conditions of entry are obtainable from the Institution.

New Town Hall, Leith.

A sub-committee of the Lord Provost's Committee of Edinburgh Town Council has adjusted the conditions which will govern the competition in connection with the plans for a town hall and library for Leith, and will submit them to the full committee for approval.

[There are no changes in the list of Competitions open, and it is accordingly withheld this week.]



[From the Report of the Royal Commission on Cross-River Traffic in London.]

Diagrams showing ("A") Method of Widening Waterloo Bridge suggested by Mr. Maurice Webb, F.R.I.B.A., and ("B") Section through Bridge as existing.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Displaying Architects' Names.

SIR,—In his letter on this subject Mr. Hastwell Grayson has overlooked one very important point. The art of architecture cannot be compared with painting, acting, and literature. In these arts there is rarely any doubt about the work having been done by the person whose name is associated with it. Registration is not an accomplished fact yet and even if it were it would not eliminate the possibility of men getting the credit for work they neither designed nor detailed.

It is no question of "mid-Victorian mock modesty," but a mere remnant of decency which prevents men who, in many cases, are little more than commercial travellers and business men, from publicly taking credit for work the excellence or failure of which they are in no way responsible. During Renaissance times the works of the great masters in architecture, sculpture and painting bore, and still bear, the unquestionable stamp of their personality even although it belonged to a particular school; but to-day, when the style and character of the work of some of our most prosperous firms varies with every change in the senior members of the staff, it would be ethically unwise to suggest that all credit should go to the man who in many cases has had least to do with the creation of the masterpiece. When every member of the profession has been trained in one of our great schools and been examined and registered, then we may further consider Mr. Grayson's proposal.

Under Mr. Grayson's scheme the firm with the largest practice would secure the greatest advertisement, whereas what we want is that work should be more equally distributed among competent and able men. The colours Mr. Grayson suggests (blue print ground with cream letters) are already used by many electrical firms. Why not vermillion on a gold ground? Were the mediæval Gothic builders concerned about advertising their cleverness? What we want to-day is to forget personal idiosyncracies and get on with the evolution of a national style, regardless of personal credit, and founded on a natural and commonsense use of the best material used in a sound and craftsman-like manner. Architects do not all work in the dark as Mr. Grayson says. From time to time some popular journalist collects the designs of a few favoured architects and publishes them, getting an eminent architect to extol the book. This is broadcast as the work of the only architects that count. Doctors and lawyers are not allowed to follow such methods, but so far the Institute seems to have ignored this form of free advertisement. Some day things may be managed better.

WILLIAM DAVIDSON.

Edinburgh.

Charing Cross Bridge.

SIR,—It is much to be regretted that the Royal Commission on Cross River Traffic, in dealing with the question of Charing Cross Bridge, should have specified within narrow limits the type and position of the new bridge. As may be seen in Appendix 13, the scheme followed by the Commission is modelled to the requirements of the directors of the Southern Railway Company and not of the citizens of London.

Apart from railway facilities the scheme has disastrous defects. It is highly controversial whether it is necessary or desirable that any railway in the future should be allowed to cross over the river in the centre of London, there to stop as a terminus. The Commissioners regard the removal of the station to the south side as an unnecessary disturbance (paragraph 123).

A point to which they attach the greatest importance (127, IV.) is that on the south of the river the roadway should lead direct to Waterloo *at the platform level*. On studying the plan (Appendix 9) it becomes evident that this is making a virtue of necessity as it would be impossible to descend to road level from a bridge over the railway before reaching Waterloo Station. Surely the principal object of the bridge should be to provide a new artery to the South of England, and not to provide primarily improved access to Waterloo Station. The scheme adopted has the following defects:—

The distance between the ends of the ramps by which the north and south river banks are severed will be 1 mile 240 yards; the distance from the Strand to York-road being less than half the distance. The Commissioners observe (paragraph 206) that such a project cannot be without its influence on the development of an area in South London which is admittedly ripe for development, but by this scheme the whole area between Westminster Bridge-road and Blackfriars-road, including the river bank, will become a *cul de sac* and be for ever debarred from any hope of betterment.

Though Waterloo Bridge is to be preserved, its south approach is to be irretrievably ruined by passing in a tunnel with a minimum clearance of 18 ft., under road and railway, measuring on the map a length of 900 ft., though the accompanying memorandum by Sir Owen Williams refers to 600 or 700 ft.

From the Nurse Cavel statue on the north bank a ramp of 1—30 is necessary to rise over the Strand with a minimum clearance of 18 ft. The ramp will have the same relation to St. Martin's Church as London Bridge approach has to Southwark Cathedral. The Strand will pass under a tunnel 95 ft. deep, thus depreciating the economic and æsthetic value of the Strand, as Farringdon-street is depreciated by Holborn Viaduct.

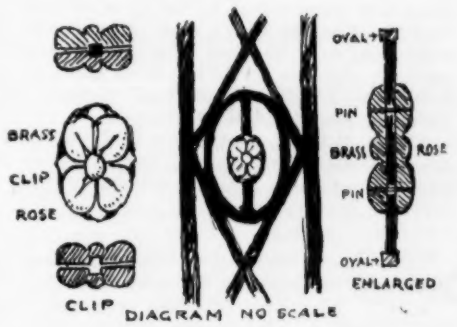
From above the Strand a gradient of 1 in 45 is required to raise the road level 13 ft. higher than is required for the bridge in order *to satisfy the requirements of the Southern Railway Company* (Sir Owen William's Memorandum, Appendix 8). Having passed over the new station the road will descend at a gradient of 1 in 50 to about the middle of the bridge where the road becomes level. The bridge will thus appear to be broken in the centre. Surely it is necessary only to point out these defects; comment is superfluous.

I would suggest, however, that if it is considered necessary that the railway should be carried across the river, it should be reconstructed underground from an incline after passing Southwark Bridge-road to an underground terminus at Charing Cross, or the line could then be continued beyond to link up with the tube system. I suggest also that the road bridge should start from Strand level with a ramp discharging at York-road. By the saving of cost in the ground required for the ramps of the viaduct bridge, land could be acquired for a spacious traffic circus at the Strand junction.

LIONEL BARRETT.

Consistent Cast-Iron Designs.

SIR,—In the serial article published last Friday in *The Builder*, by Professor Lethaby, much able advice is well given, illustrated by examples, urging the need of simple and direct design in the use of cast iron in connection with buildings and craftsmanship. The writer in the course of his learned essay alludes inferentially to the refined methods and original handling of materials adopted by his favourite architect, Sir John Soane. I do not dispute the conclusions enumerated; indeed, much thus advocated has my entire sympathy and accord. In evidence of this appreciation my recent enterprise in renovating one of the few remaining unspoiled lesser examples of this eminent architect's designs justifies my concord with Professor Lethaby's thesis set forth. To every rule and to most conclusions there are to be found some exceptions. It so happens in this case my repairs of the iron railings round Soane's monument to de Loutherbourg at Chiswick,* show a somewhat serious lack of consistency in the execution of this work, part being in cast iron, the main fence being wrought, while the little roses enriching the end piers are in cast brass pinned on to the short uprights set inside the encircling ovals. These roses consist of two halves clipping the verticals and fastened on by pins (as here indicated by sketch diagrams). Some of these applied fitments of floral form were missing owing to the rusting away of the iron inside them, the pin holes having helped to hasten the rotting away and the consequent dropping off of the flowerlets. Why these roses were cast in brass



DETAIL OF RAILINGS TO TOMB
Designed by Sir John Soane, Chiswick Churchyard.

I cannot say. Perhaps someone can mention similar instances. Most of the roses round the tomb are intact, but not a few exist in rather a touchy condition, and where they had been lost the curious formations (caused by the rust) ended in sharp points like needles. (I have supplied the missing roses.)

Possibly Soane made a paper study or general sketch and left the work to his smith. If so, Professor Lethaby's incidental thrust at "art school designs" and back hit at the R.I.B.A.'s lack of sympathy with practical and artistic craftsmanship might in some degree apply to Soane. Anyway, Professor Lethaby will be interested to hear of my experience as above narrated.

MAURICE B. ADAMS.

Quantity Surveyors' Fees.

SIR,—I was glad to notice in your notes of the 26th ult., that the Standing Committee of the Institute is taking action against those members who receive portions of the fees legitimately payable to quantity surveyors.

How is it done? In every case the full surveyor's fees are included in the quantities, but the architect receives the cheque, and he, in turn, pays the surveyor, a very ingenious procedure. In some cases the surveyor receives the cheque and pays back the required percentage.

Why is it done? One well-known architect, when asked to explain, replied, "Well, I supply well-finished drawings and details and give ample information, thus saving the surveyor an immense amount of trouble." Surely it is the architect's duty to supply these, and if he does not then the position is reversed, and it is the surveyor who is doing the architect's work. I know a number of architects who only supply outline $\frac{1}{8}$ in. scale drawings and leave the quantity surveyor to work out all constructional problems and details, and the draughtsmen then work to the quantities and the surveyor's rough sketches, but here again the scope of the surveyor's duties is being unduly and unfairly extended.

What is it leading to? The surveyor who will accept the smallest portion of his legitimate fee from the architect will receive his commission, leading to rushed and probably inaccurate quantities, or "something to cover" quantities, which are not fair to either client or builder. It also means (I know of concrete cases) that qualified surveyors' assistants in many cases receive a smaller salary than a tradesman. The first-class quantity surveyor who had all figures

*See *Builder*, October 29, for sketch and description of this memorial by Soane.

and every stage of his work, from taking-off to billing, carefully checked, and who produced an accurate and reliable bill of quantities, is being starved out, and we are now getting a good number of slipshod third-rate bills of quantities.

The task of preparing a bill of quantities is not understood by the average architect. A little knowledge is always dangerous and is responsible for the erroneous idea of many architects that a surveyor's fee is easily earned. It is not always understood that one or two lines on an architect's drawing have to be transposed by the surveyor into numerous items relating to details of many trades. The surveyor must have an intimate knowledge of all details of every branch of construction, whilst his mind must be capable of dealing with a mass of detail without confusion, and he must also possess infinite patience and care. I do not think many architects would reclaim surveyors' fees if they seriously considered these matters.

If the R.I.B.A. and the S.I. do not take drastic action immediately, one hesitates to prophesy what the ultimate outcome will be.

QUANTITY SURVEYOR.

SIR,—I note that in a letter published in your issue of December 3, under the signature "Q. S.," your correspondent suggests that the Surveyors' Institution should issue a warning to its members against allowing architects to participate in their fees for the taking out of quantities. Such a warning, however, hardly appears to be required, as participation of the character indicated would, unless disclosed to the client, appear to bring both parties within the scope of the Prevention of Corruption Acts, 1889–1916, and, if brought to the notice of the Council of the Surveyors' Institution, would render the offender liable to disciplinary action.

A. GODDARD,
Secretary, Surveyors' Institution.

BRISTOL SOCIETY OF ARCHITECTS.

At a meeting of this Society, held at the Royal West of England Academy recently, Mr. Howard Robertson, F.R.I.B.A., S.A.D.G., gave a lecture on "Architecture in the United States of America," in the course of which he said that in the early days when the settlers were chiefly English and Dutch, the architecture followed on lines familiar in England and Holland, but then there was a great influx of people from other countries, and the types of buildings degenerated. Fortunately, there were men in America who were able to stem the tide of degeneration—men who had been trained in Europe and brought back ideas that refreshed the whole field of American architecture. That happened about 60 years ago, and those men took the position that America had no distinctive traditions in architecture, and the only basis was that of European standards. What was happening now was rather different, for problems of all sorts peculiar to that country required changes in architecture, and certain old forms of buildings could not be extended. In dealing with the sky-scraper type, Mr. Robertson illustrated many of the chief features of these buildings with a series of lantern slides. He said the tall buildings were necessary because of the high ground values in New York, but districts were now zoned so that the upper parts of the very tall buildings had to be set back in order to allow sufficient light to reach the streets. It was curious to see the brickwork of upper floors of tall buildings completed before the lower floors were begun.

Preservation of Ancient Cottages.

The Prime Minister will preside at a Conference at the Royal Society of Arts on January 26 for the purpose of considering what steps can be taken to preserve our ancient cottages. The Society hope to raise a fund to be devoted to their preservation, and any contributions will be acknowledged by the Secretary, Royal Society of Arts, John-street, Adelphi, W.C.2.

THE R.I.B.A. REGISTRATION BILL

APPROVAL AT INSTITUTE MEETING.

UNDER the chairmanship of Major Harry Barnes, a Special General Meeting of the R.I.B.A. was held at 9, Conduit-street on Monday afternoon last for the purpose of approving the Registration Bill. There was an attendance of some seventy or eighty members, and after some discussion the draft Bill was approved for submission to Parliament in due course.

The Chairman, having briefly explained the object of the meeting, said that the Bill had been considered and approved by all the Allied Societies. He hoped they would see the Measure on the Statute Book by the end of the year. He then called upon Mr. A. J. Taylor, Vice-President of the Registration Committee, to move the following resolution:—

> "That this general meeting of the Royal Institute of British Architects approves in principle the draft Bill for the Registration of Architects which has been submitted to the meeting."

Mr. Taylor, in moving the resolution, said he did so with pleasure for three reasons, namely, because he was the last President of the Society of Architects, which had existed for the Registration movement; because he happened to be Vice-Chairman of the Registration Committee: and because he represented to a certain extent practitioners in the provinces, who suffered from the lack of Statutory Registration.

Mr. W. Gillbee Scott said he had great pleasure in seconding the resolution, for he had been on every committee in connection with the promotion of Registration for the past thirty-five or forty years. The whole profession was now unanimous on getting the measure passed.

The resolution then being open to discussion, Mr. Herbert Welch asked whether the Bill had been approved by the Allied Societies in general meeting or only by the Councils of those bodies.

The Chairman said the Bill had been before the Councils, not the members. He then read a letter from Mr. Caple, of Birmingham, who raised a similar point and suggested that they might postpone consideration of the Bill for one month. Registration (continued the speaker) had been considered for forty years, and the Institute itself had spent two years upon it. If they now delayed, the Bill might not go through next year. Bills were balloted for in Parliament on February 6, and if they postponed the matter for a month it meant that they practically postponed it for a year.

Mr. Welch said the meeting could not be held to be representative of the whole profession. For many it was impossible to attend a meeting held at 2.30 in the afternoon. Could it not have been arranged to hold a meeting at a more opportune time?

Several other speakers having joined in the discussion, the resolution was put to the meeting and carried unanimously.

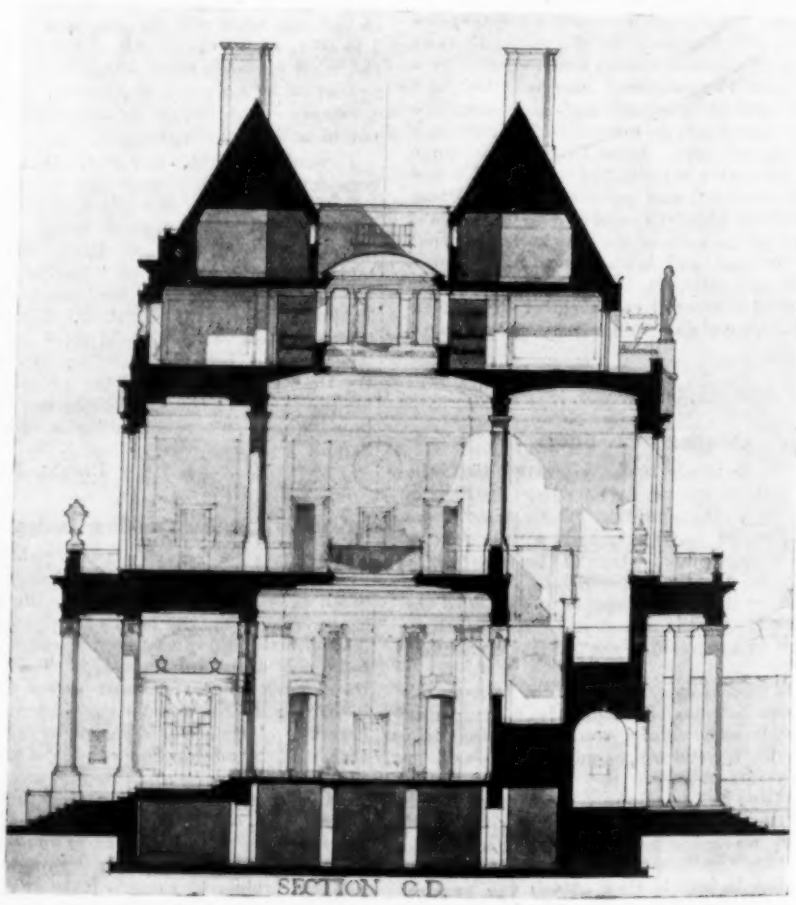
The Chairman then went through the Bill clause by clause and invited amendments.

Professor C. H. Reilly asked whether the Universities would have representation on the Registration Committee, as they had in the case of the Medical and Dental Acts. The Universities appointed their own representatives; they were not appointed from outside.

Professor Budden moved as an amendment that the words "or approved" be inserted in Clause 2 ("Interpretation"). The amended Clause read: "The expression, 'The Council,' means the Council of the Institute or any Committee of the Council appointed or approved by the Council for the purpose of exercising the powers of the Council under this Act."

The amendment was carried.

Clauses 3 and 4 were agreed without discussion. With regard to Clause 5 ("Persons Qualified for Registration"), Mr. Forster pointed out that no age limit was mentioned, and moved that the words "and at the date of application has attained the age of twenty-one years" be



Design for a London Club House (Royal Academy Travelling Studentship).

BY MR. BRIAN SAMUEL ROBERTS. (*See also pages* 993, 994 *and* 995.)

incorporated in sub-sections A. B. and C. Mr. E. Stanley Hall and Mr. Gilbert Jenkins opposed, and the amendment, being put to the meeting, was lost.

Clause 6 ("Council to Prescribe Qualifications for Registration") aroused some discussion, one speaker inquiring whether there was any possibility of an applicant securing entrance to the Register without examination, and another asking for a statement of the "regulations" prescribing the qualifications necessary for Registration. Professor Budden moved that after the word "examinations" (sub-section 2) the words "conducted by" the Council be interpolated. The Chairman, in reply, said the whole object of the Bill was to give the widest possible powers to the Council. There would be examinations, but it was reserved to the Council to prescribe what the qualifications would be. He thought the Clause was wide enough to cover Professor Budden's point. The amendment was not pressed.

Clauses 7, 8, and 9 were agreed without discussion. With regard to Clause 10 ("Appeal against Removal from Register or Refusal to Register"), Mr. Stanley Hall and Mr. Gilbert Jenkins both inquired as to the position of a man who appealed. Would he be heard before he was struck off the Register? There was nothing to show that the man himself would be heard. The Chairman said the points were covered by the words "after due inquiry," Clause 7 ("Removal of Names from Register"). The Clause was then agreed.

With regard to Clause 11 ("Use of Titles"), one speaker asked if there was anything in the Bill to prevent an unqualified person from acting as an architect. The Chairman said there was nothing. Anyone could design a building, but no unregistered person would be allowed to call himself an architect. The Clause was then agreed.

Clauses 12, 13, 14, 15, 16, 17, and 18 were agreed without discussion. With regard to Clause 18 ("Naval Architects, Surveyors, Civil Engineers"), the Chairman pointed out that the Bill applied in no part to naval architects, and in no part, except Clause 18, to members of the Surveyors' Institution and the Institution of Civil Engineers. Members of these latter bodies could not call themselves architects nor use in their titles any of the other terms mentioned in Clause 11 ("Use of Titles").

The Schedules and the Preamble of the Bill were then put to the meeting and agreed, and it was also agreed to alter the date of the Bill to 1927.

The Chairman then called upon Mr. A. J. Taylor to move the following Resolution:—

> "That this general meeting of the Royal Institute of British Architects approves the draft Bill for the Registration of Architects as amended and initialled by the Chairman of the meeting, requests the Council to use its utmost endeavours to place it upon the Statute Book, and authorises the Council to make such modifications in the draft Bill as may be necessary to ensure its enactment."

Mr. A. J. Taylor then moved the resolution, which was seconded by Mr. W. Gillbee Scott.

Mr. Herbert Welch said he understood that the Bill would be circulated among the various interested bodies and would then be considered by the Institute Council with any suggested amendments. Would members again have an opportunity of considering the Bill in general meeting?

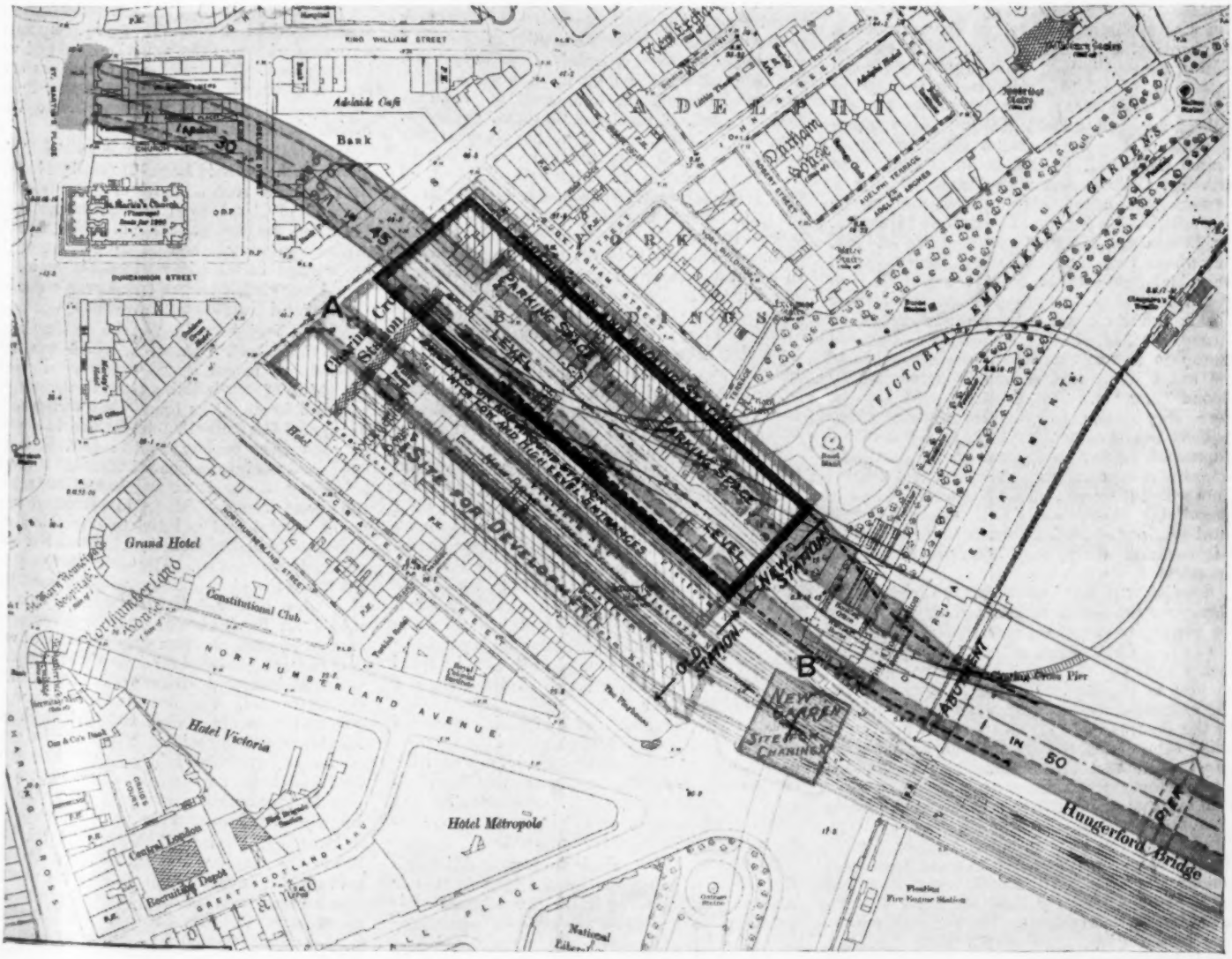
The Chairman said the Bill would not be brought before general meeting again. The resolution asked them to give powers to the Council to make alterations in the Bill if such were required.

The resolution was then put to the meeting and carried unanimously.

Mr. G. A. T. Middleton then thanked Major Barnes for his able chairmanship, and in acknowledging the compliment Major Barnes referred to the invaluable work which had been done by Mr. McArthur Butler and Mr. Lyall. The vital day, he continued, would be February 6, when Members of the House of Commons balloted for Bills; they were hoping to be one among the first three or four. Any member who could get an M.P. to promise to ballot for the Bill would be doing a great service.

INCORPORATION OF ARCHITECTS IN SCOTLAND.

A lecture, with lantern illustrations, on "Recent School Planning" was delivered recently in the Council Rooms of the Incorporation of Architects in Scotland at Rutland-square, Edinburgh, by Mr. John Stewart, architect to Lanarkshire Education Authority. Speaking of school architecture generally, Mr. Stewart said a great responsibility rested on those who "cheese-pared" expenditure in the erection of housing and other such work. In the designing of school buildings he put "atmosphere" and environment before many stipulated so-called essentials. In order to conform to present-day economic conditions and the ever-changing methods of education, school buildings must be of adaptable plan and construction. In secondary schools he would group the rooms around the "hall of education."



Map Illustrating Proposed Charing Cross Bridge Scheme (North Side).

Reproduced from an Appendix to the Report of the Royal Commission on Cross-River Traffic in London.

THE WORK OF LEONARD STOKES.

THE PRESIDENT (Mr. E. Guy Dawber) occupied the chair at a meeting of the R.I.B.A. on Monday evening last, when Mr. George Drysdale, F.R.I.B.A., read a paper on this subject. Born in 1858 at Southport, said the speaker, Mr. Stokes was the son of Scott Nasmyth Stokes, H.M. Inspector of Schools. Being delicate as a boy, he was educated privately; coming to London, in 1871, he was articled to Mr. S. J. Nicholl, going from him to spend some time in the office of a quantity surveyor. Of the dire effects of this experience he always complained, his trouble being that he was ever afterwards inclined to put the cart before the horse and consider the probable cost of a detail before thinking of its suitability for the matter in hand. He afterwards worked in G. E. Street's office and, according to Mr. Millard, was well thought of there. After acting as clerk of the works, for a time, on Christ Church Cathedral, Dublin, he spent some time with Mr. Collcutt and with Messrs. Bodley & Garner. This latter firm employed him on the first competition for the Cathedral at Liverpool. Mr. Stokes won the Pugin Studentship in 1881, and about this time made sketching trips to Italy and South Germany. It would be seen from this that his training was almost all under Gothic influence, an influence that remained throughout his career. He easily assimilated the spirit and was satisfied, careless rather of the exact shape and seemingly unworried by second thoughts. Rules, as he used to say, were only made to be broken, everything realised not so much by logic as by personal impression gained by the use of his eyes. His art, always remembering the realm of sensation from which it sprang, might be said to consist in magnifying the emotions felt, developing their vital qualities apart from any learning attached. His sense of design was a subtle one, often dramatic in expression.

Appreciation for materials, the elementary pleasure of the senses, rather than only the desire for perfect form; the expression of the dumb life in stone and wood, of mass in equilibrium rather than the display of knowledge, appealed to him in building. Coming at a time when the enthusiasm created by what is now known as the Battle of the Styles was growing somewhat thin, influenced by Ruskin, perhaps, his effort was towards the humanising of the Revivalist correctness by means of proportion and affection for the material. He (Stokes) found Pugin cold and thin, but greatly admired Bentley, Bodley and Garner's work, and that of Temple Moore. Norman Shaw and Pearson were also among the gods. All names which appealed by the human charm of their art rather than its archæological correctness. He was rather lacking in ambition, once saying that "enough work has generally come along for me to do without worrying about the getting of it."

Definitely Gothic in temperament, his work in the Classic manner was always against the grain, of necessity often imagined rather than desired. Essentially English and individual, his adventures in Classic, as he called them, were generally his least successful efforts. He despised the rules—rules that were generally stronger than he was. He had no respect for the orders, once perpetrating an elliptical column which luckily was never carried out; always preferred an arch to a lintel, and had no regard for an arris edge. Frieze and architrave were one to him. He hated the word "stylist," and always desired, as he expressed it, "to make it a little more naughty." On the other hand, he always complained that he had been but half-educated in his art. As a planner he could not boil down space after the manner of the competition expert. His corridors, however, were spacious, his doors and windows well placed; every part of the building received attention and was lighted; floors and roofs worked; his planning was practical, generally economical, and often imaginative. When he had finished, a building was the result and not a compilation of mathematical shapes.

When things went really wrong, he was very reasonable, even kind. After carelessness or sloppiness, no mercy was shown. Equally sharp with clients and draughtsmen, and a fair judge of men, he expected people to know their job. If they did they were received as friends. He got on very well with his builders and had always the greatest respect for a good workman. Mr. Stokes had no little surface dignities, was never pompous in his manner, and had an ever-ready, and witty, tongue.

Mr. Stokes might be said to have found himself in the design of St. Clare's Church, Liverpool, a cheap church costing in those days about £8,000, yet dignified in treatment, imaginative, and for its time free and bold in design. Unfortunately, the cutting out of the stone and substitution of plaster inside rather stultified the interior as originally arranged. The lecturer preferred to show Stokes's drawing of the Miles Platting Church, Manchester; a very fine drawing of what might have been a most successful church. It was never carried out. Peterborough, Maidenhead, Balham, Begbroke, Lynton, Chigwell, and Pickering were among other churches, or parts of churches and chapels, with the exception of Lynton and Chigwell, all Gothic in character. It seemed lamentable that his great chance in church work might be said never to have arrived. The Cathedral at Demerara, not yet finished, had to be carried out in a strange material and under very difficult conditions, the drawings being done in the early years of the war, when paralysis had already attacked him. It said something for the man, however, that as far as the speaker knew not one mistake was discovered either in drawings or in other directions given for this work at the other side of the world; he remembered every detail on the many sheets of drawings until the end.

In addition to churches, Mr. Stokes built and added to many convents, that at Colney, St. Albans, being perhaps the best known and most satisfactory. There was a comfort and smiling breadth about this work which put it at about the highest level of his attainment. The convent at Lynton, North Devon, built for the Order of the Poor Clares, was attractive in its kindly severity of white wall, green roof and polished chestnut woodwork. It was built of local stone slate hung and then roughcasted to keep out the driving rains of the country, all the internal woodwork being left unpainted, following the rules of the Order.

He designed many schools in various parts of the country, generally Georgian in character, and not offering great opportunity for exciting elevations. Downside was more ambitious, and on the whole satisfactory. The additions to Emmanuel College, Cambridge, was another good example of his later architecture.

A good deal of domestic work passed through the office, a house for Lord Digby at Cerne Abbas being, at any rate, the largest. His houses were generally designed to be roughcasted with grey cement architraves to door and window, the roughcast fairly smooth and light yellow ochre in colour. The offices attached to Chelsea Town Hall were almost his only municipal work of any importance. Perhaps the finest characteristic of his works was their oneness: no question of "ghosts" employed, no fashionable stunt of the moment, no half-understood detail absorbed from the Press—the result original work of decided individuality; work which, when compared with other work of its time, might be said to have equally well avoided the Scylla of coarseness and the Charybdis of archæological timidity.

DISCUSSION.

Mr. J. A. Gotch, proposing a vote of thanks to the lecturer, said he had known Leonard Stokes for many years in the days of the old Architectural Association. He was always bright and original, and his sayings bubbled up from an inner fount of feeling. He was in agreement with Stokes's lament—that owing to early training he was inclined to consider the cost of the work before thinking of the beauty.

Mr. Adrian Stokes, in seconding, said that he had a certain diffidence in addressing such a learned body of architects, and therefore would like to speak of his brother as the man. His brother, he said, though one of a large family, was his father's favourite son until he developed a rather bitter tongue, when he sank to the same level as the rest of them! But against this one defect there was a great deal to be set. He was brave, as his bearing in his last illness showed; he was honest, generous and kind.

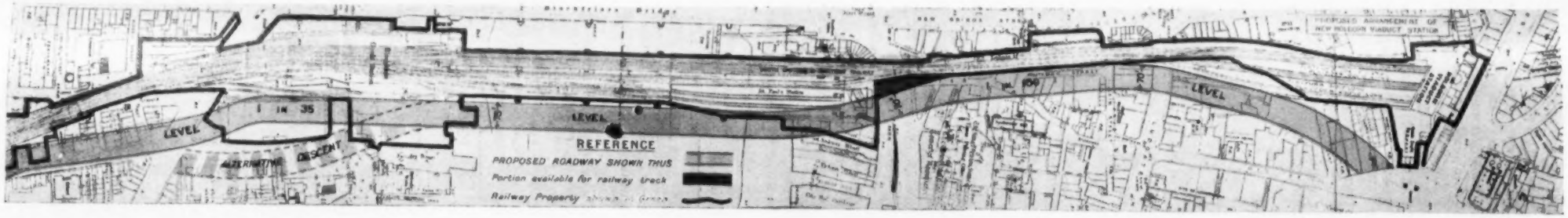
Dr. Peter Giles, the Master of Emmanuel College, Cambridge, related how Stokes came to be chosen as architect for the extensions of the College, and how the lecture room that he added was admitted to be the finest in Cambridge. He had never heard of Stokes in a bad temper, but he had heard of him doing a thing that few architects did, and that was to finish a building under the estimated price!

Mr. Walter Millard said he had seen a great deal of Leonard Stokes's work. Stokes did not pose for all his inborn cleverness. By nature he was a pioneer; he experimented and went his own road. The speaker said that one of the few men who influenced Stokes was Francis Bentley—and that in the days before Westminster Cathedral.

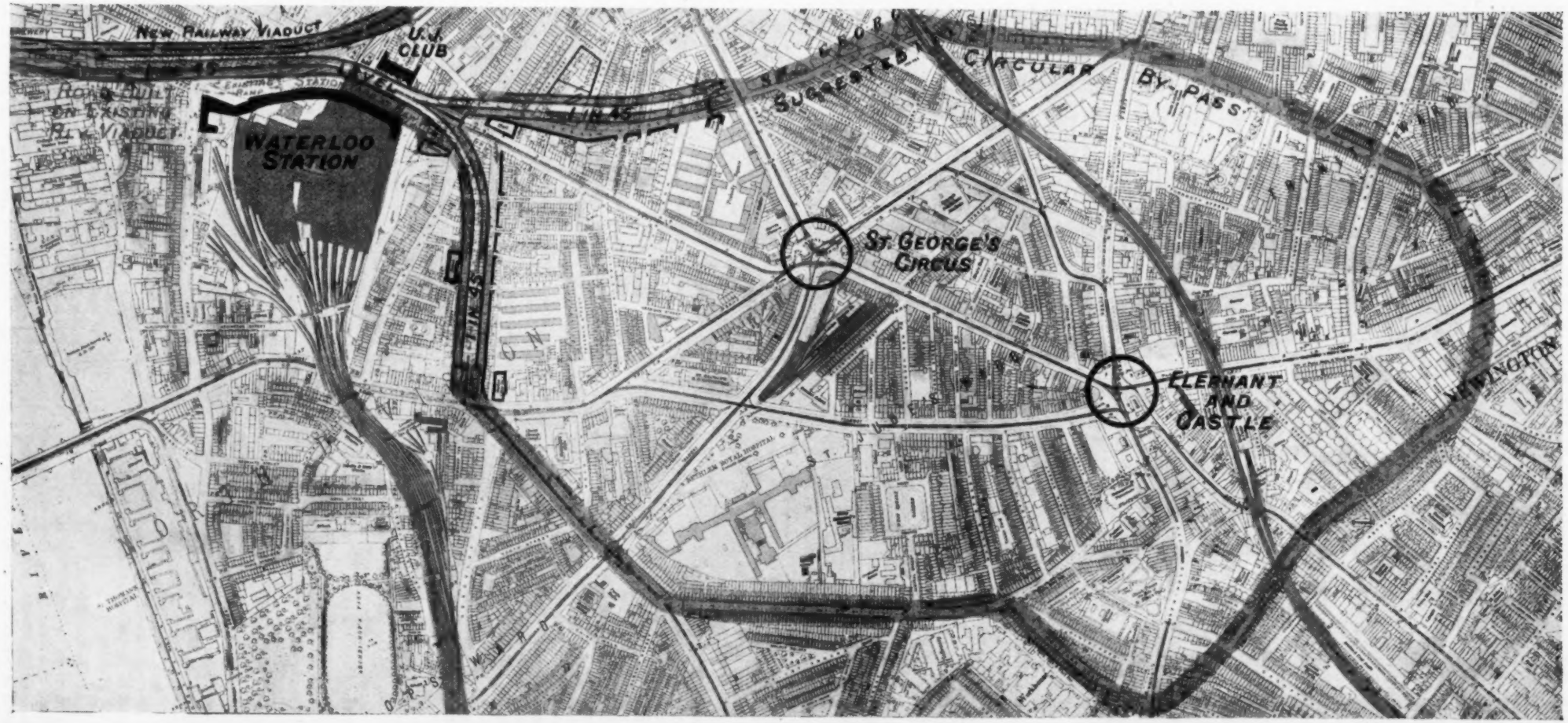
Mr. Graham Petrie referred to the Chelsea Town Hall, and said he could recall no building that brought such a throb of pleasure as this example of Classic art; strong, but not stern; beautiful, yet chaste. He could not believe that Stokes's mind was essentially Gothic, or that he worked in Classic against his grain. He would say that Stokes's mind was essentially Classic, and Gothic only accidentally.

Mr. H. Steinberg then spoke on the Georgetown Cathedral, Demerara, which was being carried out in reinforced concrete. He could not think of any building that, in its way, was so ambitious. They found that owing to the nature of the subsoil, foundations in the form of piles were useless, and he (Mr. Steinberg) suggested a reinforced concrete raft. It became necessary to cut down weight and material to the lowest extent. The original structure was of wood, carved and painted to resemble stone! The new Cathedral looked rather massive, but in reality it was not so. The walls were only 4 in. thick and the piers hollow, while the tower walls also were hollow—all for lightness' sake. It said a lot for Stokes that he was courageous enough to embark upon such an original work. Stokes was a pioneer in the use of white concrete, which he had used with effect in the exterior of the Cathedral. The floor in the nave was of coloured concrete and of red and black tiles. All this work of erection had been carried out by native and unskilled labour, supervised by one Scottish clerk of works, for whose powers both he (the speaker) and everyone who came into contact with him had the profoundest respect.

After Mr. William C. Ward and Dr. Percy Scott-Worthington had spoken, the President said he had never been at an evening where he remembered such tributes, not only to a man's work, but to the man himself. He himself had a great admiration both for Stokes and his work. He (the speaker) never went to Oxford but he went through the Corn Market to see the little school that Stokes had built there. The vote of thanks having been heartily agreed to, Mr. Drysdale replied and the meeting terminated.



Map Showing Proposed "Ludgate" Bridge.



Map Showing Proposed Charing Cross Bridge Scheme (South Side).

Reproduced from Appendices to the Report of the Royal Commission on Cross-River Traffic in London

ROYAL COMMISSION'S REPORT ON LONDON BRIDGES

THE Report of the Royal Commission on Cross-River Traffic was issued last week. The Commission, appointed on July 24 last, consisted of Lord Lee of Fareham, Lord Hambledon, Sir Willoughby H. Dickenson, Sir William Plender, Sir Lawrence Weaver, and Mr. C. E. Inglis. The Report, which is dated November 30, occupies more than 120 pages, and includes a number of "folders" illustrating various of the Commission's recommendations, which are summarised in the Report as follows:—

Waterloo Bridge.

(i) (a) The existing bridge should not be demolished.

(b) Piers Nos. 3, 4, 5 and 6 and the arches supported by them should be taken down and rebuilt.

(c) The remaining piers, which are not taken down, should be supplied with new foundations, by underpinning, if it should be established in each case and after further examination that their condition renders this course essential. Such underpinning should be conducted by the "free air," open cofferdam method.

(d) The new foundations of the piers should in all cases be carried down to a depth of 35 feet below Ordnance Datum.

(e) The roadway of the bridge should be widened to 35 feet, whilst not diminishing the present width of the footways.

St. Paul's Bridge.

(ii) The projected St. Paul's Bridge should be abandoned in favour of the alternative proposal for a new high-level road bridge between Southwark-street and Holborn Viaduct.

Proposed "Ludgate" Bridge.

(iii) Provision should be made for a combined road and footway, 70 to 75 ft. wide, from Southwark-street to Holborn Viaduct, and, in order to provide a suitable continuation northward, Long-lane should be widened to at least 50 ft. and a circus should be made at its junction with Aldersgate-street.

Proposed Bridge at Charing Cross.

(iv) (a) A double-deck steel bridge, providing space for six railway tracks on the lower, or present, level, with a 60-ft. roadway above, and two footways of 15 ft. each, should be built immediately alongside and to the east of the present Hungerford Railway Bridge, and a new Charing Cross station should simultaneously be constructed on a site, to be acquired, which is bounded on the east by Buckingham-street. As soon as these become ready for use, the railway tracks should be switched over to them, and the old bridge and station demolished, leaving the site of the latter free for the erection of a new hotel or any other development that might be desired.

(b) The roadway on the northern side of the bridge should cross over the Strand with a head room of about 18 ft. and, passing behind St. Martin's Church, reach ground level in the vicinity of the Cavell Statue.

(c) The roadway on the southern side should pass by Waterloo Station, at platform level and opposite the main entrance. The new roadway from the bridge should be built, in part, on the present railway viaduct (a new viaduct being simultaneously provided to maintain the railway connection with Waterloo Junction Station).

(d) The new road should branch at Waterloo Station, by two inclined ways, 75 ft. wide, down the centres of Oakley-street and Webber-street respectively (each widened to 150 ft.) and thus connect at two points with the proposed circular road designed to by-pass St. George's-circus and the Elephant and Castle.

Tower Bridge.

(v) With a view to improving the northern approaches to this bridge, the Hay Market in Whitechapel High-street and neighbouring streets should be removed. On the south side of the bridge steps should be taken to deal with the obstruction of the roadway by street traders.

Lambeth Bridge.

(vi) The objections to the proposed design, from the navigation point of view, are of a serious character and any reasonable requirements of the Port Authority with regard to the headway of the three centre arches ought to be fully met. The provision of a suitable circus at the Grosvenor-road end of the new bridge, with more adequate approaches to Victoria Station, are indispensable parts of this scheme.

Vauxhall Bridge.

(vii) The improvement of Vauxhall Cross is an urgent necessity, an the utilisation of one or two of the existing railway arches, which might be converted into additional roadways, should be considered for this purpose.

Chelsea (or Victoria) Bridge.

(viii) This bridge should be rebuilt and widened in order to make it available for all classes of traffic.

Albert Bridge.

(ix) If and when funds are available, this bridge should be rebuilt and widened to carry four lines of all classes of traffic.

Wandsworth Bridge.

(x) This bridge should be rebuilt as a four-line bridge, to take all classes of traffic, provided that the approaches on the south side are simultaneously improved so as to provide adequate access to Trinity-road at Wandsworth Common.

Putney Bridge.

(xi) This bridge should be widened to not less than 74 ft.

The improvement of the approaches to the bridge, at both ends, is equally essential and should be undertaken simultaneously, as an indispensable part of the scheme.

Hammersmith Bridge.

(xii) This bridge should be rebuilt and widened to take four lines of traffic without restriction of weight.

Hampton Court Bridge.

(xiii) The proposed new bridge in substitution of the existing bridge, and the connection with the Portsmouth-road should be proceeded with.

New Chertsey-road Scheme.

(xiv) In recording our concurrence with this approved scheme, including the need for new bridges over the river at Chiswick and Richmond, the proposed new road leading to the new bridge at Richmond should be kept close alongside the railway so as to encroach as little as possible on the Old Deer Park.

Western Exits from London.

(xv) We recommend, as a first step, that the two bridges proposed by the Western Exits of London Society, near Dorset Wharf and Chiswick Ferry respectively, should be built, together with the road connecting them across the Castelnau peninsula. A connection should also be made on the west with the new Chertsey road, and on the east with the Fulham Palace-road. (We assume in this connection that the construction of the projected thoroughfare designed to link up the new Chertsey-road with the Great West-road will simultaneously be proceeded with.) The Dorset Wharf Bridge should ultimately be connected with the western end of Cromwell-road by means of a new thoroughfare and a bridge over the railway at the latter point, but this is not an immediate necessity, although we have included the cost in our total estimate of £2,000,000.

Rotherhithe Tunnel.

(xvi) The surface condition of the approaches and of the tunnel roadway should be improved and steps taken to remedy the lack of ventilation.

Blackwall Tunnel.

(xvii) The roadway of the tunnel should be improved and modern ventilation should be provided in order that the present restrictions upon the passage of certain classes of traffic may be abolished or modified.

Woolwich Free Ferry.

(xviii) The approaches to the Ferry on either side of the river should be improved, the pontoons should be enlarged and the approaches to them widened sufficiently to take heavy motor vehicles.

Gravesend-Tilbury Ferry.

(xix) This Ferry should be acquired by the public and placed on the same basis as the Woolwich Free Ferry.

Dartford-Purfleet Tunnel.

(xx) The scheme proposed by the Ministry of Transport for a tunnel at this point, including approaches, linking up with the arterial roads, should be adopted.

Victoria Dock-road Scheme.

(xxi) The scheme proposed by the Ministry of Transport for improved access to the Dock Area, and to the east of London, should be carried out.

Central Authority.

(xxii) (a) A "Central Authority," to deal with the whole problem of bridges and cross-river traffic facilities within the London Traffic Area, should be sanctioned by Parliament and provided with adequate financial resources.

(b) The functions of this Authority should be discharged by the existing "London and Home Counties Traffic Advisory Committee," which, by an amendment of the London Traffic Act of 1924, should be empowered to hold and administer the funds placed at its disposal by Parliament for the purpose of securing the carrying out of the programme of works recommended in this Report.

(c) This Central Authority should be charged with the duty of arranging with the local authorities concerned for the execution of the works herein recommended.

(d) It should give continuous study to the question of cross-river communications within the area and examine and co-ordinate any further schemes which may, in future, become necessary in connection with such communications.

Finance.

(xxiii) The programme recommended by the Commission, involves a gross expenditure, including contingencies, of approximately £27,500,000, which sums would be reduced by such capital contributions as might be made by the Bridge House Estates, or obtained from other sources. The net expenditure would have to be financed as follows:—

(a) By a loan or loans amounting in all to about £19,000,000, to be raised by the Central Authority. The service of such a loan should amount to approximately £1,000,000 per annum, on the basis of interest at 5 per cent. and half-yearly redemption in 60 years, and Parliament should authorise the specific earmarking for the purposes of the Central Authority of such sum, annually, from the Road Fund.

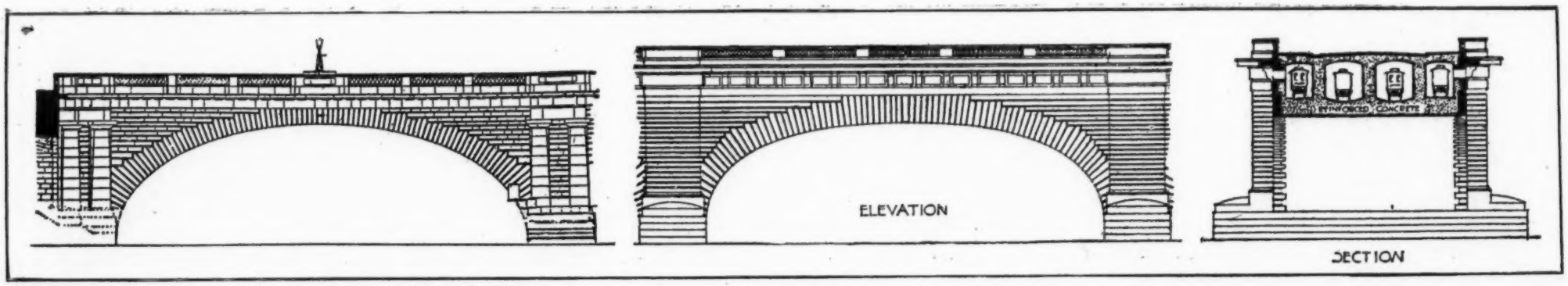
(b) The balance of the net expenditure would have to be provided by the local authorities concerned.

The proportion of the cost of any scheme which should be borne by the Central Authority would be a matter for negotiation.

[The Report, price 4s., may be obtained from H.M. Stationery Office, Adastral House, Kingsway, W.C. 2.]

British Mercantile Marine Memorial.

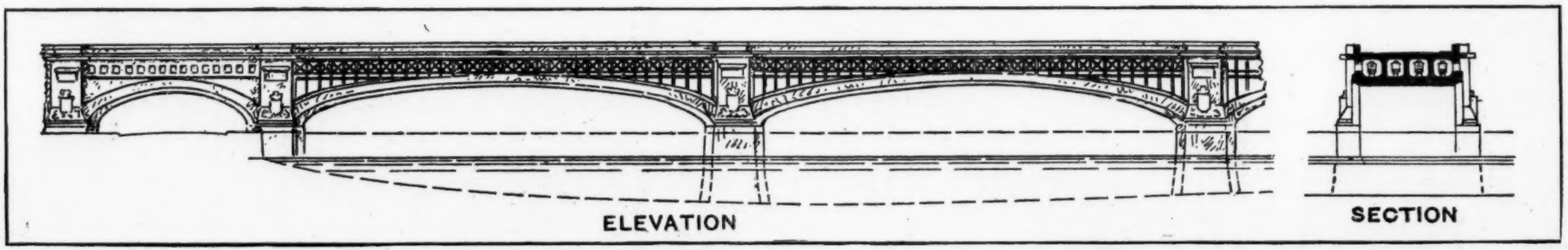
The memorial to be placed on Tower Hill to the men of the British Mercantile Marine who died in the war, which has been designed by Sir Edwin Lutyens, R.A., will have inscribed upon it the names of 12,000 men of the Mercantile Marine whose graves are the sea. It will take the form of a vaulted corridor, 64 ft. long, divided into three bays, with archways at each end, 8 ft. wide and 21 ft. high. The memorial will be placed on the south side of Trinity-square, bordering a public footway. The cost will be defrayed by the War Graves Commission, whose funds are derived from the various Governments of the Empire.



ARCH OF PRESENT WATERLOO BRIDGE.

ARCH AND SECTION OF STONE DOUBLE-DECK BRIDGE TO SAME SCALE AS WATERLOO.

Designed by MR. H. V. LANCHESTER, F.R.I.B.A.



[Reproduced from Appendices to the Report of the Royal Commission on Cross-River Traffic in London.]

Arches and Section of Steel Double-Deck Bridge (with five arches over River.)

Designed by MR. H. V. LANCHESTER, F.R.I.B.A.

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ILLUSTRATIONS

Waterloo Bridge.

We illustrate this week a proposal by Mr. Maurice Webb, F.R.I.B.A., for widening Waterloo Bridge to take four lines of traffic. No alteration to the main lines or the scale of Rennie's design is involved; the piers, arches and waterways remain as now. The piers and the parapets over them at present project some 5 ft. 6 in. beyond the general face of the bridge. All that is necessary (writes Mr. Webb) is to advance the cornice and parapet over the arches between the piers some 3 ft. 9 in. on each side, in order to secure the necessary widening of the roadway, without altering the river way, and to convert what is for all practical purposes of traffic, a two-way bridge into a four-way one, thereby doubling its real road capacity. To do this, the cornice between the piers can be projected outwards upon a simply moulded frieze, instead of a flat one, and the balustrades set further out upon the cornice without obliterating the breaks formed by the piers from water line to parapet top, which are a valuable feature of Rennie's design.

We reproduce also a perspective drawing of Sir Reginald Blomfield's solution of the same problem, together with a number of other illustrations from the Royal Commission's Report.

Billiard Room, &c., Singapore Club.

This room is part of the Singapore Club situated in the new General Post Office Building. The work is carried out with teak panelling and pre-cast ornamental plaster-work, the beams being of 48 ft. span with pre-cast intermediate beams and panels. The flooring will be of rubber. Major P. H. Keys, F.R.I.B.A., is the architect.

Central Building, Silver End Garden Village, Essex.

We illustrated in our issue for March 12 the lay-out plan for Silver End Garden Village, which is being developed by the Crittall Manufacturing Co., Ltd., in a rural district midway between Witham and Braintree, Essex, and we now give a perspective view of the central building, designed by Mr. C. Murray Hennell, F.S.I. This consists of a hall, canteen and club, facing the central place of the village and backing on to the recreation ground. The hall will accommodate from four to five hundred people, has a stage and dressing-rooms, also a fire-proof cinema-box, which is situated over the entrance lobby, and will not, therefore, protrude into the hall in any way. The canteen, which occupies the ground floor of the centre portion of the building, overlooks the recreation ground, the back wall of this consisting almost entirely of steel French casements. Over this canteen is planned a pavilion for sports, with changing rooms, showers, stores, and grand-stand. The other wing of the building is planned as a club, with billiard and reading rooms, committee and staff rooms. The walls are to be faced with stock bricks and the roofs covered with green Delabole slates. The building is to be erected by the Crittall Manufacturing Co., Ltd., by direct labour, in the same manner as they are proceeding with the development of the whole of the village.

Hainton Hall, Lincolnshire.

Hainton Hall, on the Lincolnshire Wolds, the seat of the Right Hon. the Lord Heneage, was partially destroyed by fire in the summer of 1919. The east wing (the kitchen quarters) was then rebuilt. Again, in July, 1924, fire broke out, and the west wing containing the reception-rooms and bedrooms was burnt out. In neither case did the fire damage the large dining-room, attributed to Sir Christopher Wren, nor the smoke-room, which was built in 1913. The reproductions in this issue illustrate part of the recent re-building, which, to a great extent, follows the original in plan and design. The work which has been recently completed was carried out by Messrs. Wm. Wright & Son (Lincoln), Ltd., builders, Lincoln. The following were sub-contractors: George Jackson & Sons, Ltd., plaster work; G. N. Haden & Sons, Ltd., heating; and the Alliance Electrical Co., Ltd., electric light work.

Mr. Henry G. Gamble, F.R.I.B.A., of Lincoln, was the architect.

Cleethorpes Secondary School for Girls.

This school has been built by the Lindsey County Council as a secondary school for girls, and was formally opened on October 28 by Lord Eustace Percy, the President of the Board of Education. The school is one of a series which the Council are hoping to provide in their administrative county. The buildings have a sunny aspect and stand in a site of ten acres, the school having, in addition to garden grounds, three tennis courts and a large playing field. When quite complete the school will take 400 scholars. At the present time accommodation is provided for 250, with all the necessary special rooms for the larger number, thus leaving only classrooms for 150 to be added as need arises. The buildings are arranged round two quadrangles, separated from each other by an assembly hall (81 ft. by 40 ft.). Around the sides forming the quadrangles, open verandas give access to the buildings.

In the centre block of the main front are, on the ground floor, the rooms for the head and assistant mistresses, secretary and sixth form and library; while the two floors above are occupied by dining-rooms for the scholars and staff, a rest room and kitchens, larder, pantry, storerooms, &c. From this centre block run the classrooms, three for 30, four for 25, and three for 20 scholars, and the sixth form room and library before mentioned. There is a housecraft room (25 ft. by 25 ft.), with store and larder for teaching domestic subjects; and an art room (30 ft. by 25 ft.). One side of a quadrangle is taken up by a physical laboratory (37 ft. by 24 ft.), a chemical laboratory (37 ft. by 24 ft.), with store-room and preparation room between. At convenient positions near the scholars' entrances are placed the cloak-rooms and lavatories. In addition there is a gymnasium (60 ft. by 30 ft.), thoroughly equipped with modern appliances and near by are open-air paved exercising and drilling grounds. In a convenient position is a bicycle shed for 100 cycles.

Special attention has been given to ventilation and heating, the intention being to lead up to and assist in the prevailing desire to teach under semi-open air, or, when possible, complete open-air conditions. To do this, the classrooms are so planned that the whole of one side, the side opening into the verandas around the quadrangles, can be opened at will. On the other side and above are the lighting windows, the whole of which are arranged to open readily and thus ensure constant and ample natural ventilation. In heating the classrooms, radiators are abolished and instead the floors of the rooms are heated by pipes containing hot-water under low pressure and warmth transmitted through the floor material into the rooms, a development of the method of school heating so ably begun by Mr. Widdows in Derbyshire. By this method a more even and regular temperature is maintained in all parts of a classroom and the steady continuance of the heat permits the enjoyment and benefit of semi-open air and consequently more healthful conditions.

The school is well lighted naturally and has electric light for evening work. The drainage and sanitary arrangements are on modern principles. The elevations are in brick with grey terra-cotta dressings. The total cost of the building and equipment has been about £35,000.

The general contractors were Messrs. B. Pumfrey, Ltd., of Gainsborough. The following were sub-contractors: G. N. Haden & Sons, Ltd. Kingsway, heating engineers; W. H. Webster & Co., Ltd., Grimsby, electric lighting; The Granwood Flooring Co., Ltd., and Hollis Bros., Hull, flooring; The Bennet Furnishing Co., Ltd., London, laboratory fittings; Spencer Heath & George, Ltd., Ponders End, Middlesex, gymnasium fittings; and Hodsons, Ltd., Nottingham, garden work.

Mr. Henry G. Gamble, F.R.I.B.A., of Lincoln, was the architect.

Boston Grammar School.

Boston Grammar School is an old foundation of Queen Mary's time and possessed a school built during the reign of Queen Elizabeth. In more recent periods two rooms have been added and for some years the school was carried on in these buildings, a science block being added a short time ago. The accommodation was found to be quite inadequate and plans were prepared and have now been carried out for the building of a new school built on to and around the old school. The new buildings are arranged around three sides of a quadrangle, the fourth side being occupied by the old school buildings. Access to the different rooms is obtained through a cloister and corridor. The school contains ten classrooms, three for 30 scholars, five for 25, and two for 20, and a Sixth Form room and headmaster's room, together with art room and manual room, each 30 ft. by 25 ft. There are also, approached from the playground by an open cloister, suitable cloakrooms and lavatories and a junior masters' room. A dining-room for scholars, a record room and library, and shed for cycles complete the accommodation. The whole of the buildings are centrally heated by low-pressure hot-water and are well lighted both naturally and by electric light for evening work. The buildings are of thin rough bricks with Clipsham stone dressings harmonising with the old work. The total cost has been about £21,000. The builders were Messrs. W. & H. H. Vamplew, of Boston, and the following were sub-contractors:—Heating, Rosser & Russell, Ltd., Leeds; electric lighting, Mr. B. C. Roe, Lincoln; flooring, The Acme Flooring & Paving Co., (1904) Ltd. London.

Mr. Henry G. Gamble, F.R.I.B.A., of Lincoln, has been the architect.

New Offices, Lincoln.

The offices for the Lincoln Wagon and Engine Co., Ltd., have been lately erected in Lincoln. The front is of Weldon stone and thin local bricks. The board room, manager's room and staircase are all in Austrian oak. Messrs. Wm. Wright & Son (Lincoln), Ltd., of Lincoln, were the builders, the electric light work being by Mr. B. C. Roe, of Lincoln, and the heating by The Brightside Foundry and Engineering Co., Ltd., of Sheffield.

The architect was Mr. Henry G. Gamble, F.R.I.B.A., of Lincoln.

R.A. Travelling Studentship.

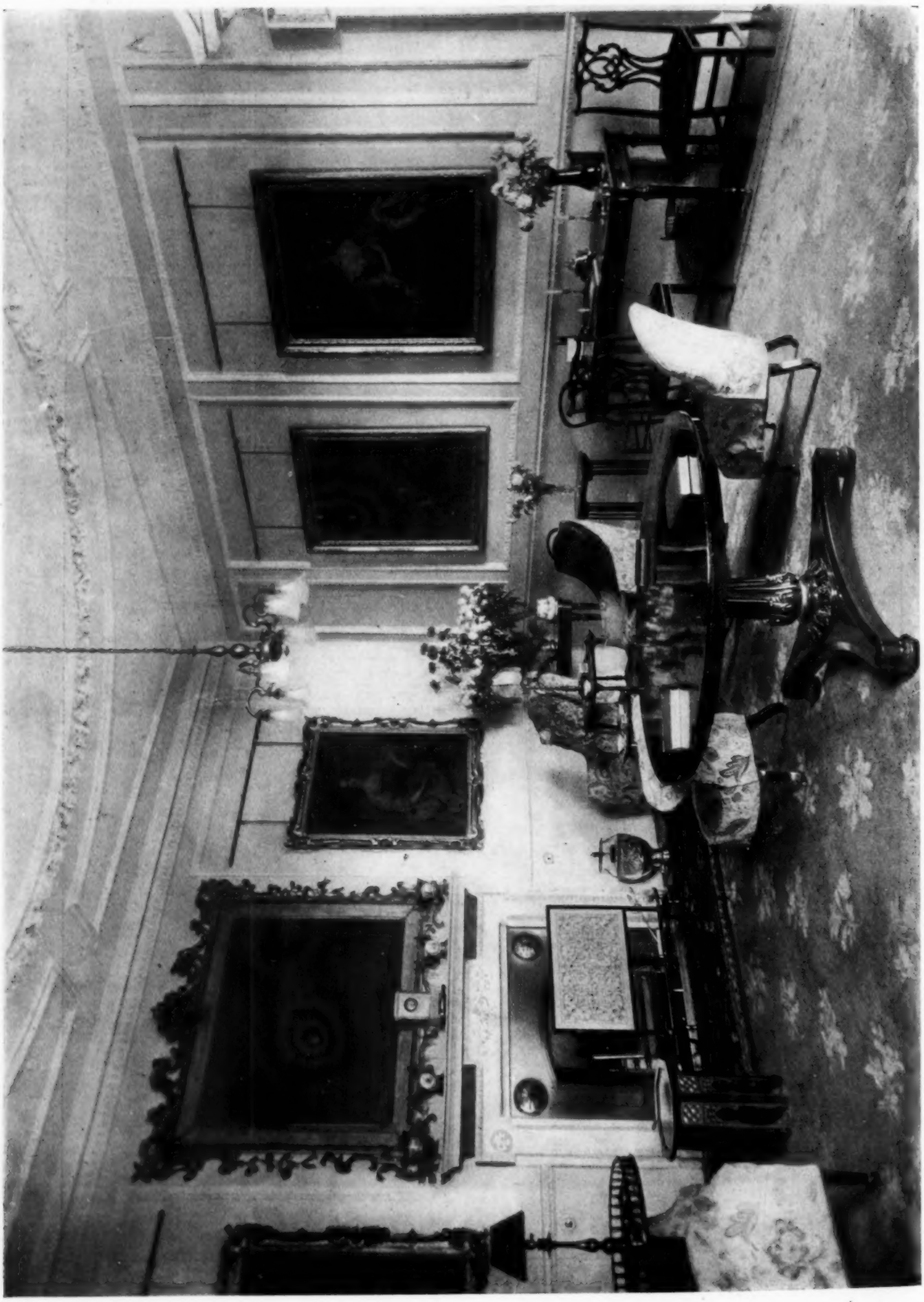
We illustrate this week a "Design for a London Club House for 1,000 Members," by Mr. Brian Samuel Roberts, a student of the Royal Academy. This design has gained for him the R.A. Travelling Studentship (England) (£60), tenable for one year. Some comment upon this year's R.A. drawings is given on page 1001.

MEETING

FRIDAY, *December* 17.

London Society.—Rev. A. G. B. West on "London: The Cynosure." At 18, John-street, Adelphi, W.C.2. 5 p.m.

Bird's-eye View of New Arterial Road Proposed by the Western Exits-of-London Society.

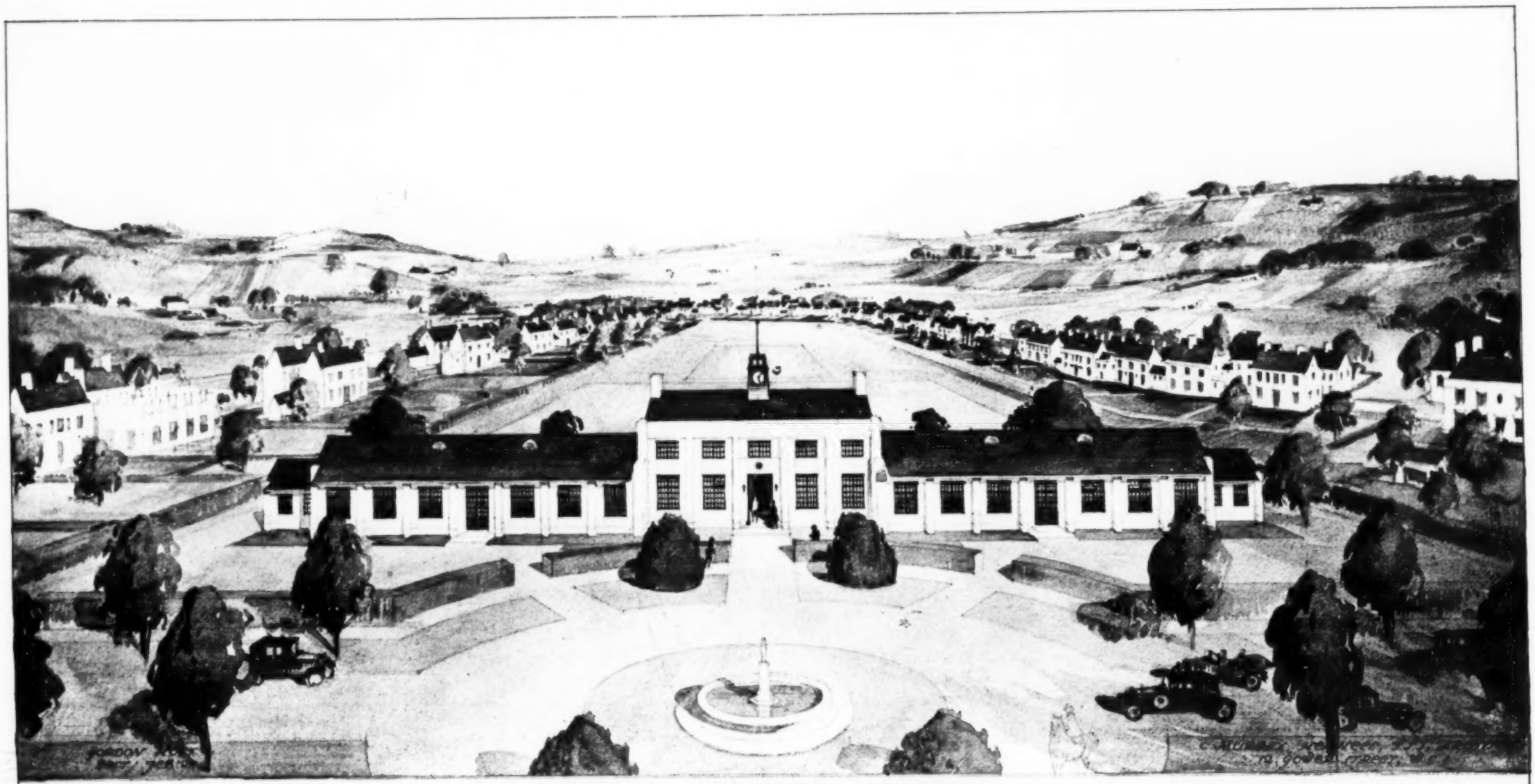


Hainton Hall, Lincolnshire: Small Drawing Room.

MR. HENRY G. GAMBLE, F.R.I.B.A. (Messrs. Scorer & Gamble), Architect.

Mr. Henry G. Gamble, F.R.I.B.A. (Messrs. Scorer & Gamble), Architect.

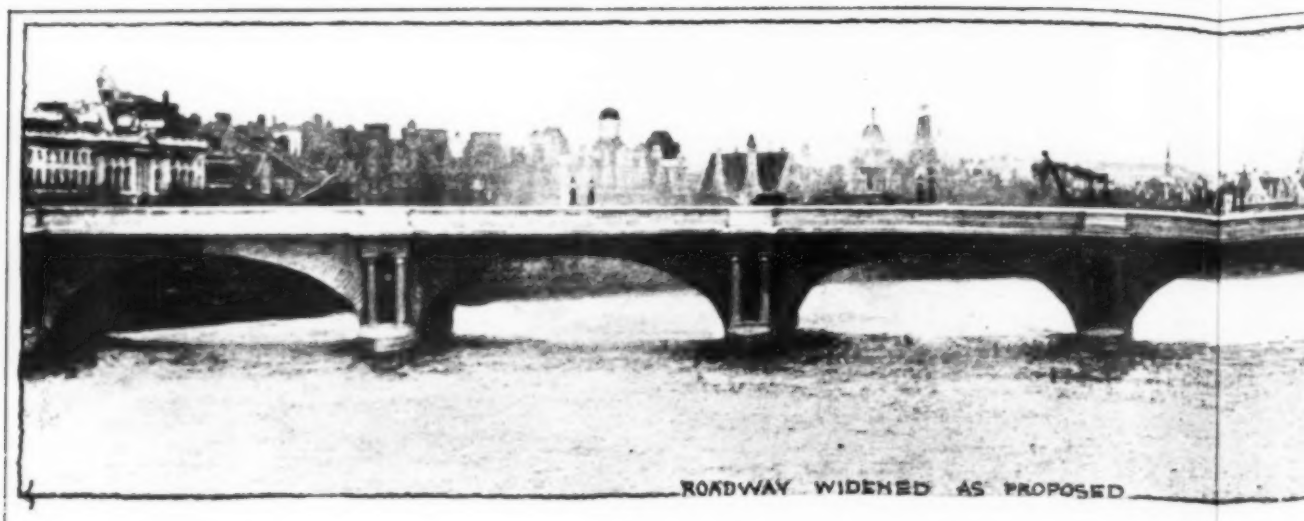
UNIV. OF MICH.



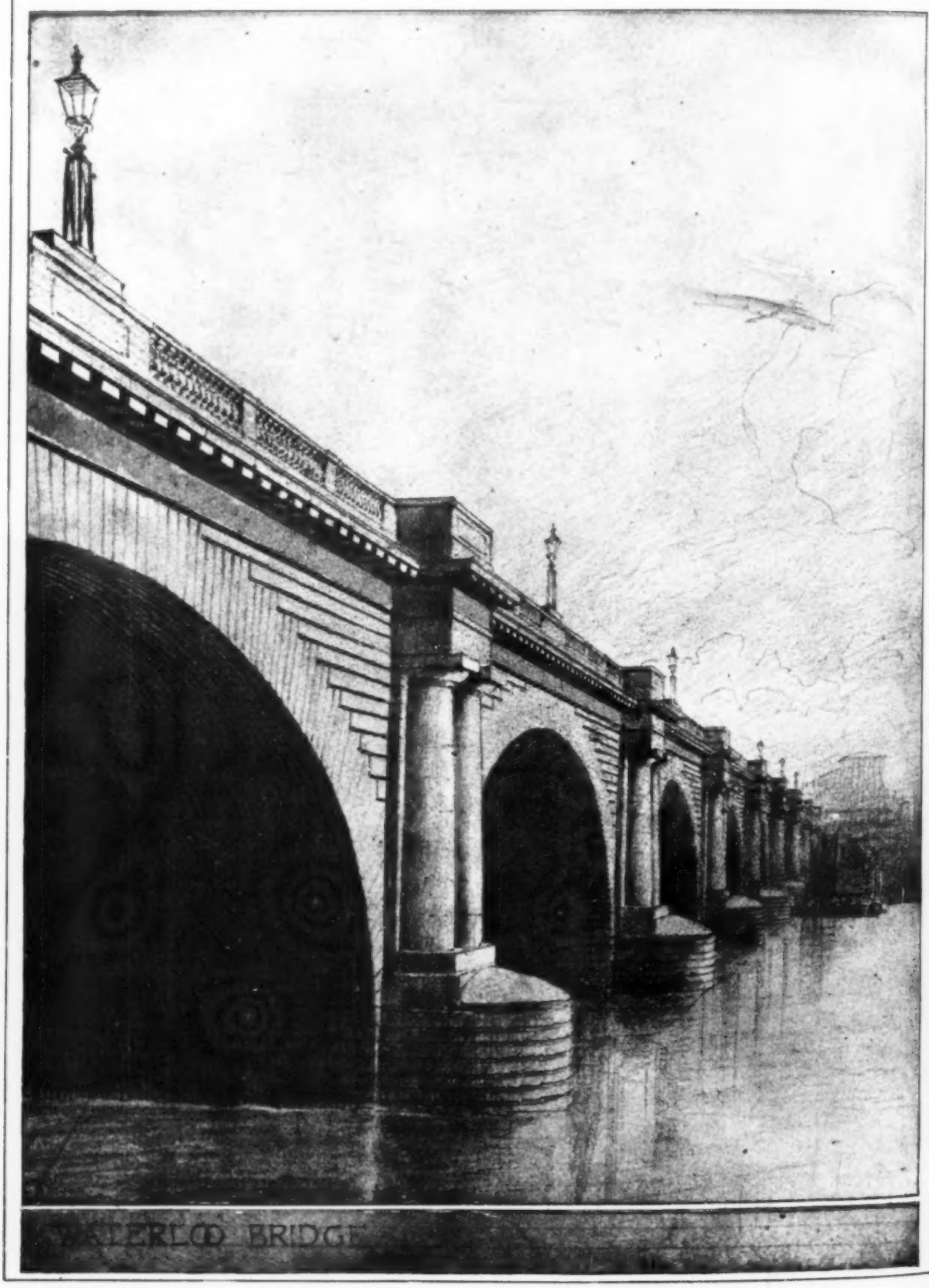
Mr. C. Murray Hennell, F.S.I., Architect.

Mr. C. Murray Hennell, F.S.I., Architect.

UNIV. OF MICH.



ROADWAY WIDENED AS PROPOSED



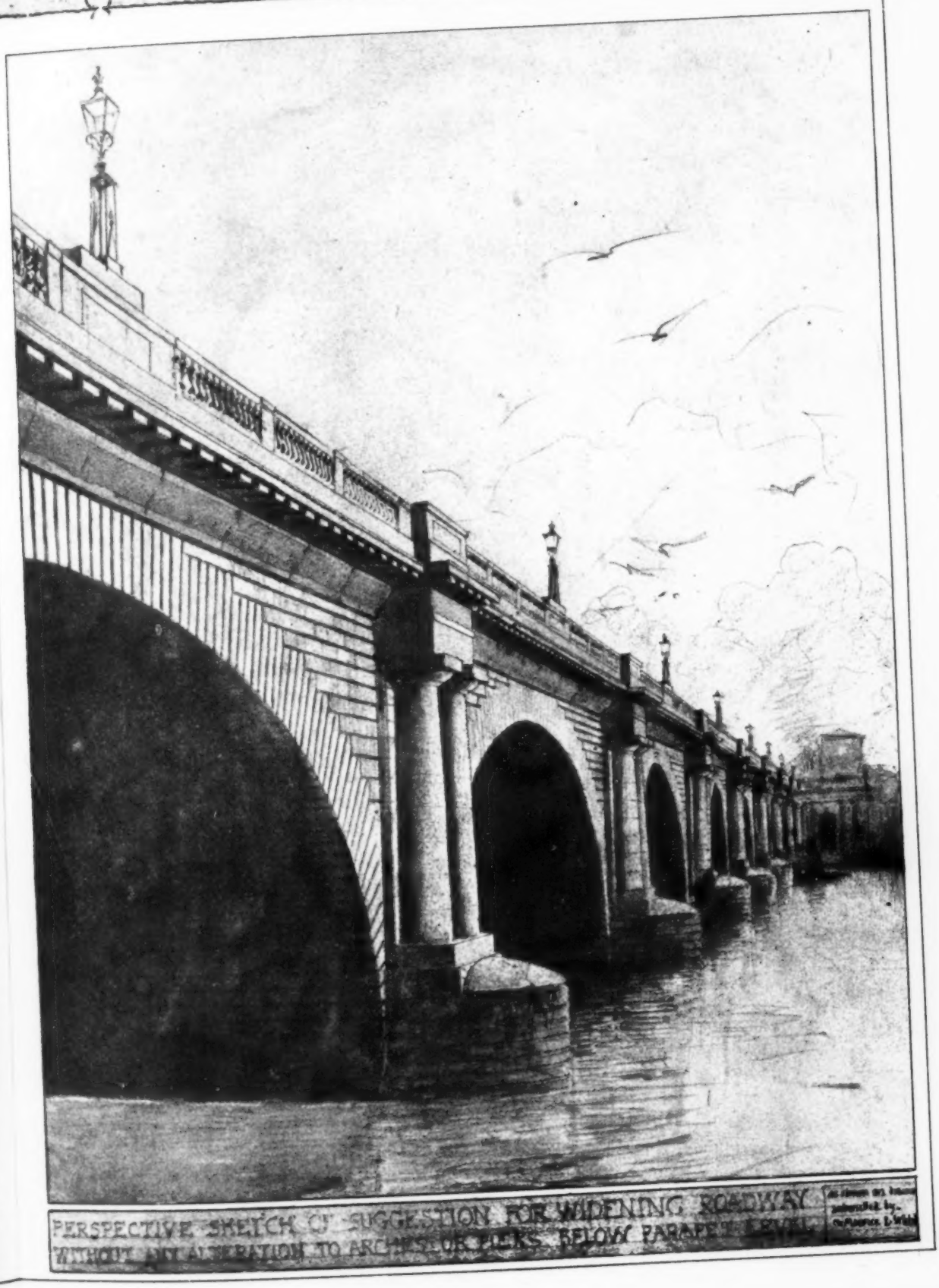
WATERLOO BRIDGE

T. Raffles Davison, delt.

WATERLOO BRIDGE: SUGGESTED ALTERATION FO

Scheme submitted by Mr. Maurice E. Webb, F.R.I.B.A. to

BRIDGE AS EXISTING



PERSPECTIVE SKETCH OF SUGGESTION FOR WIDENING ROADWAY WITHOUT ANY ALTERATION TO ARCHES OR PIERS BELOW PARAPET LEVEL

ALTERATION FOR WIDENING ROADWAY.

b, F.R.I.B.A. to the Royal Commission on Bridges.

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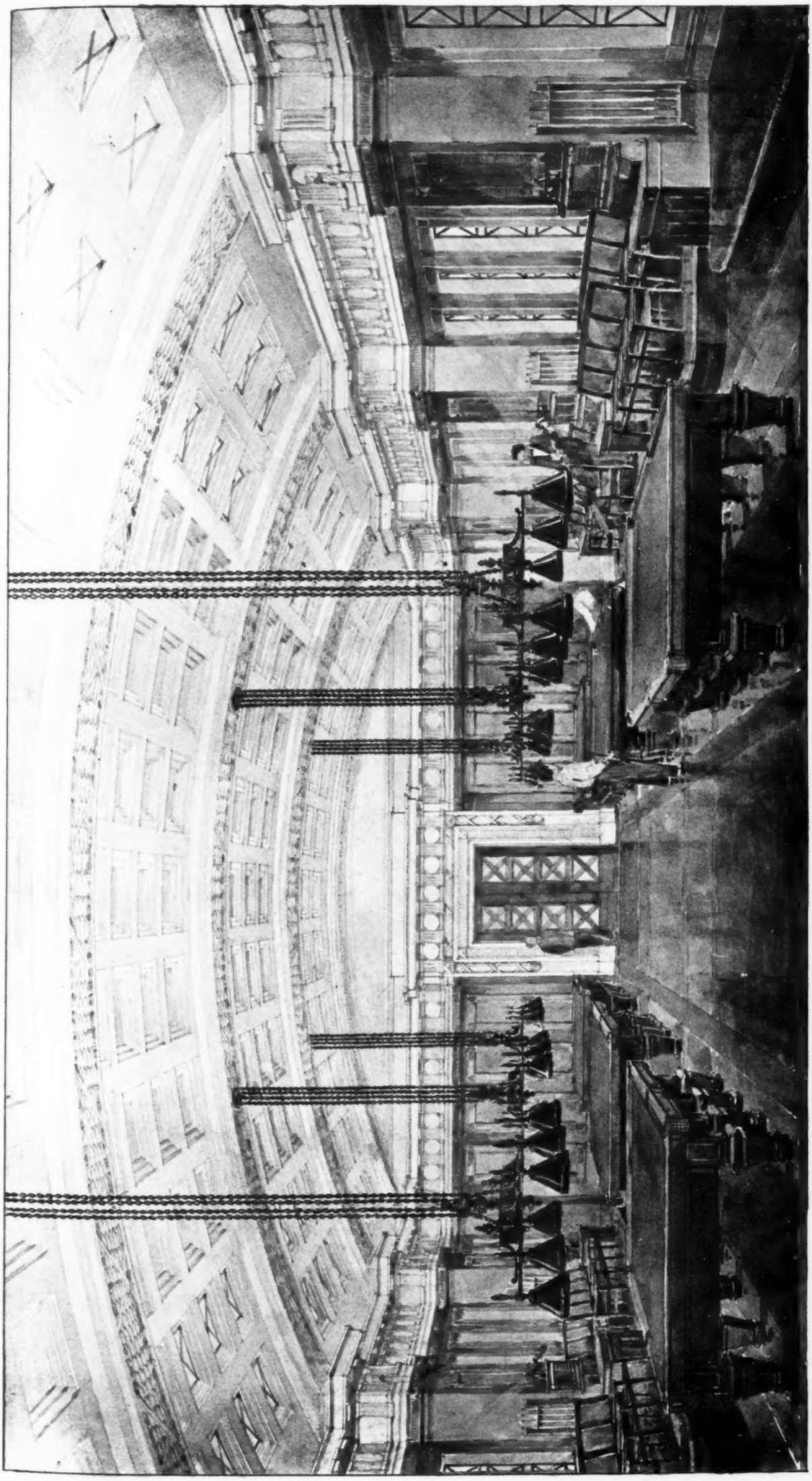
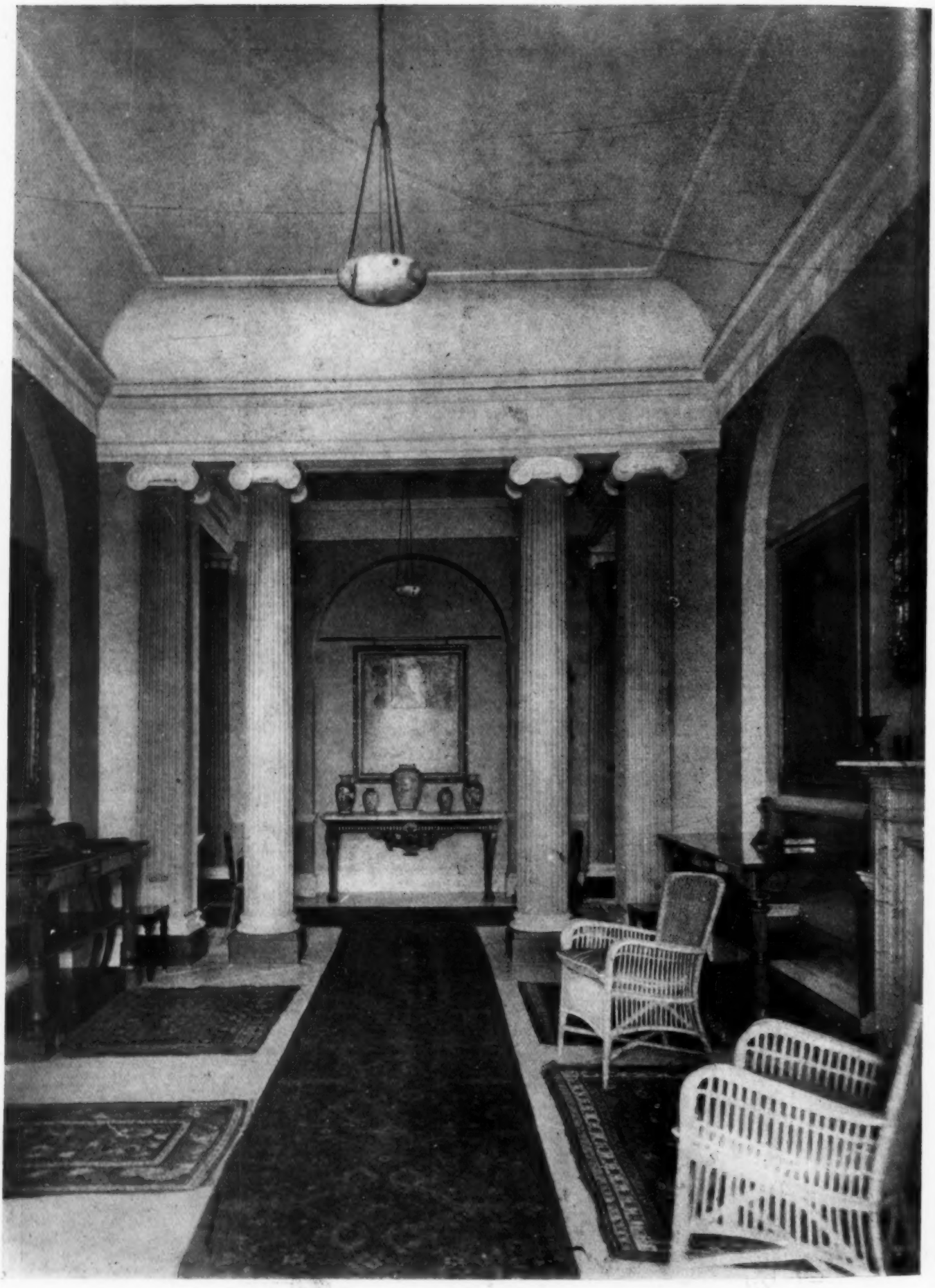


BILLIARD ROOM IN THE SINGAPORE CLUB.
Major P. H. Keys, F.R.I.B.A., Architect.

UNIV. OF MICH.

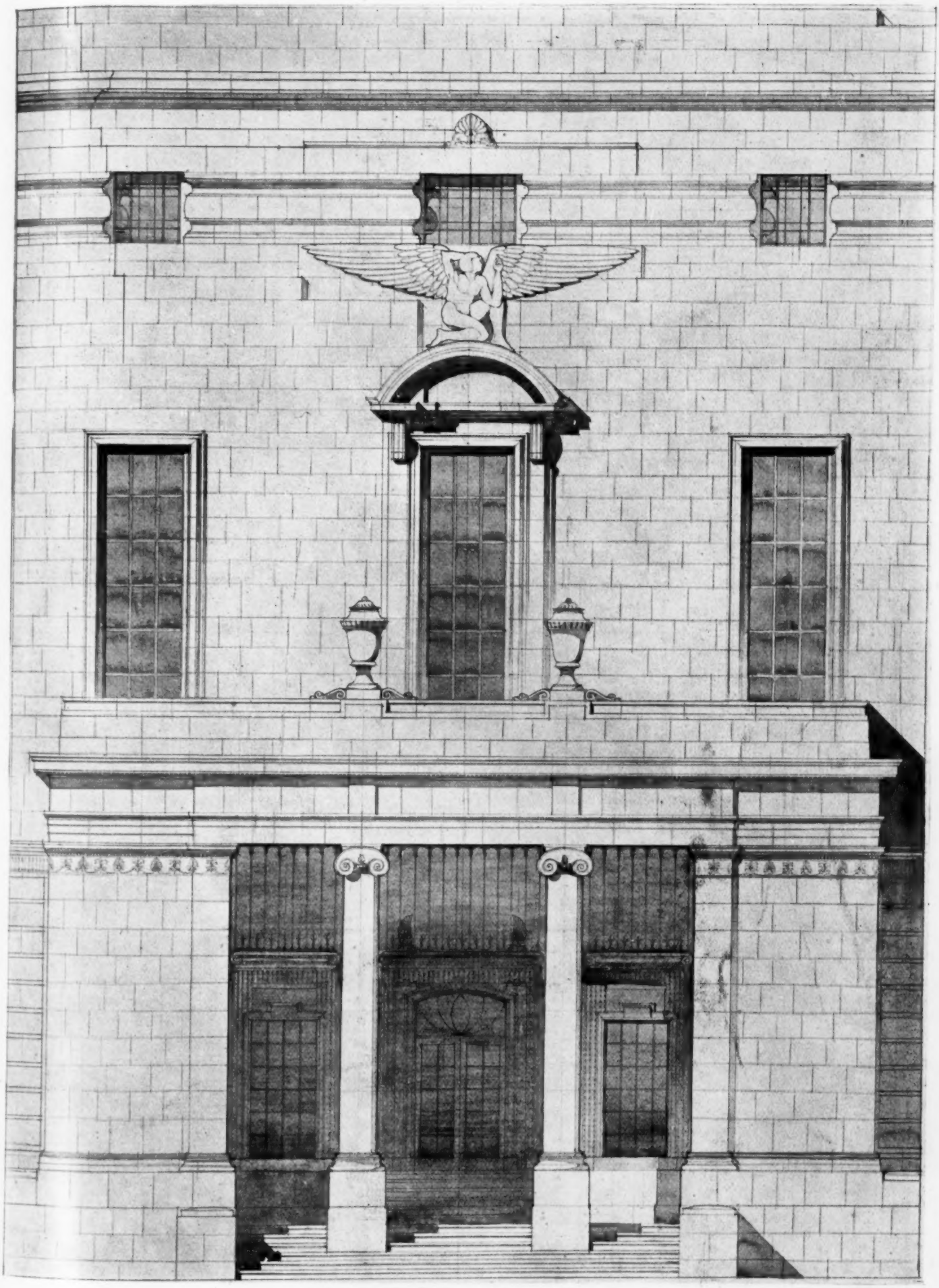
Hainton Hall, Lincolnshire: The Smoking Room.

MR. HENRY G. GAMBLE, F.R.I.B.A. (Messrs. Scorer & Gamble), Architect.



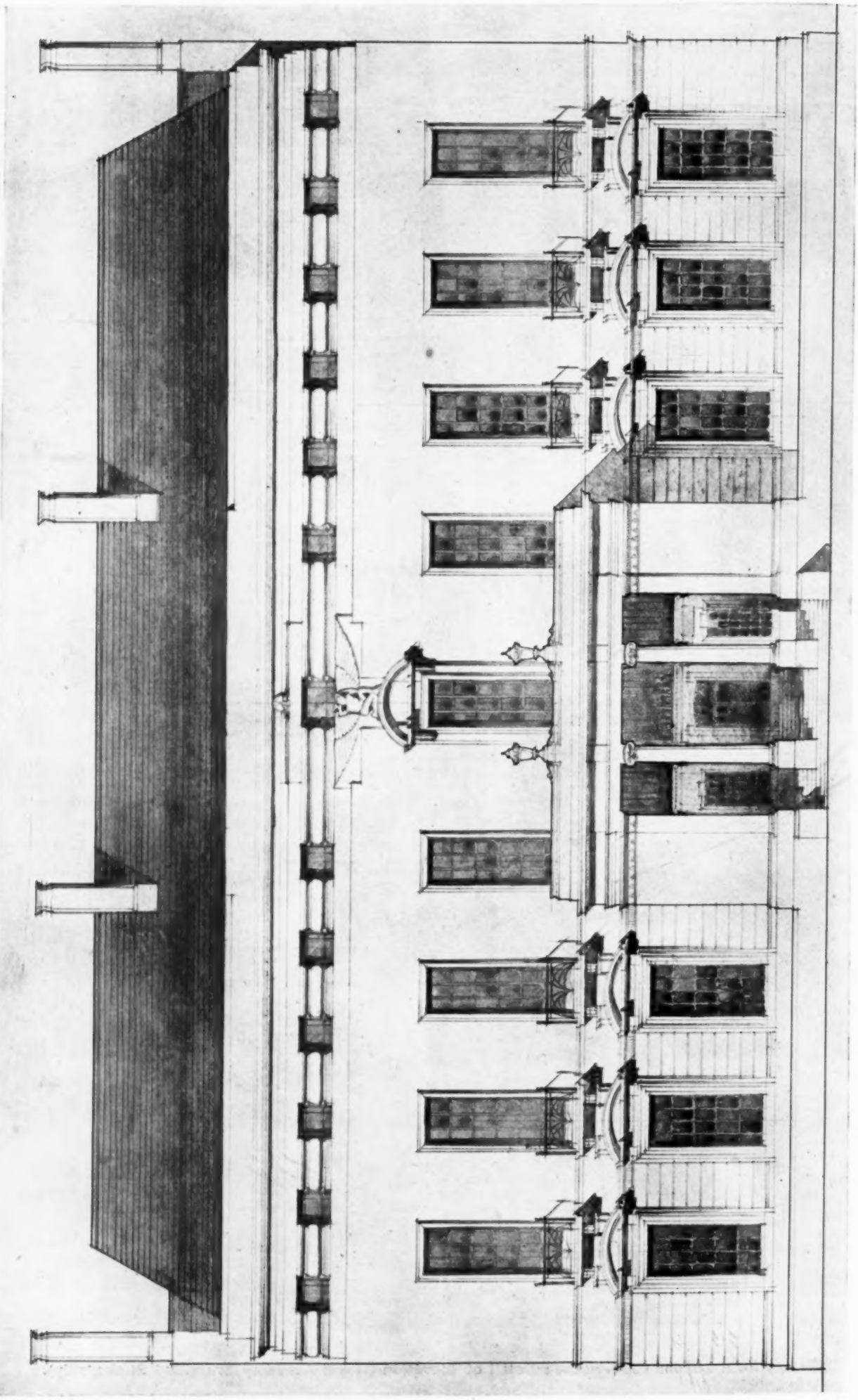
Hainton Hall, Lincolnshire: The Entrance Hall.

MR. HENRY G. GAMBLE, F.R.I.B.A. (Messrs. Scorer & Gamble), Architect.

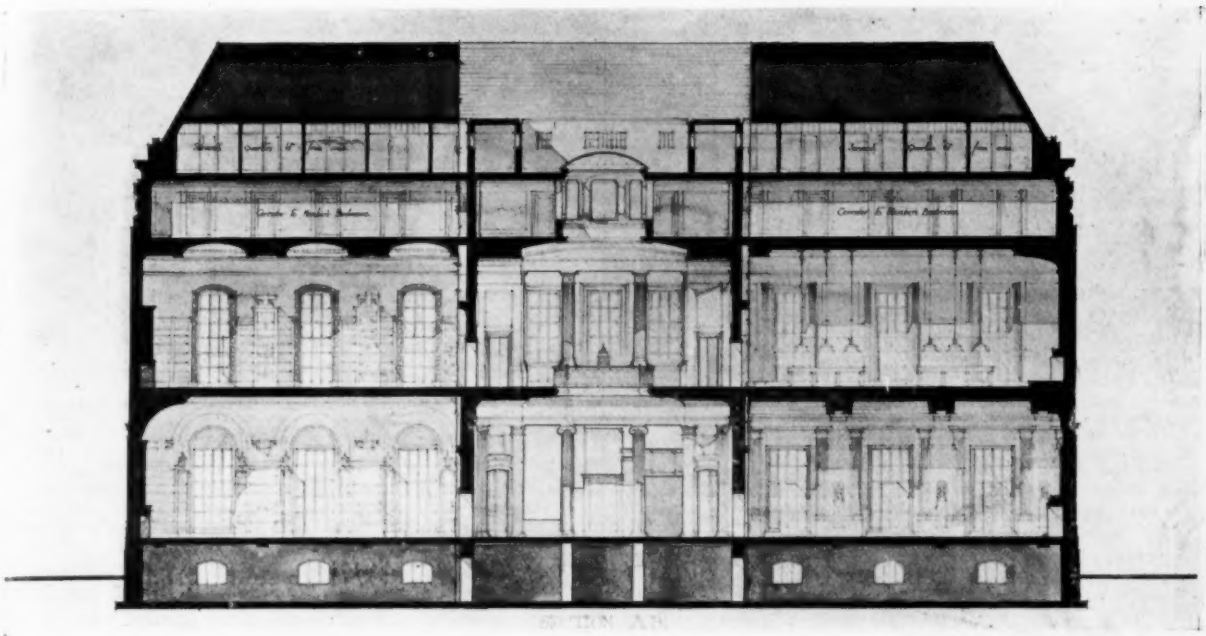


Design for a London Club House: Detail of Elevation (Royal Academy Travelling Studentship).

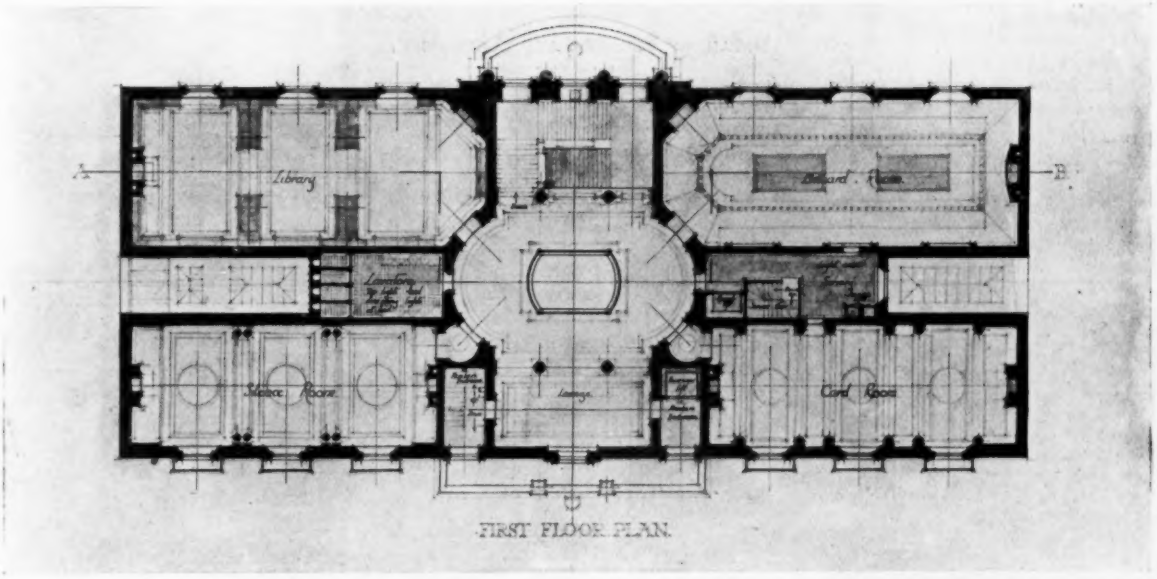
BY MR. BRIAN SAMUEL ROBERTS.



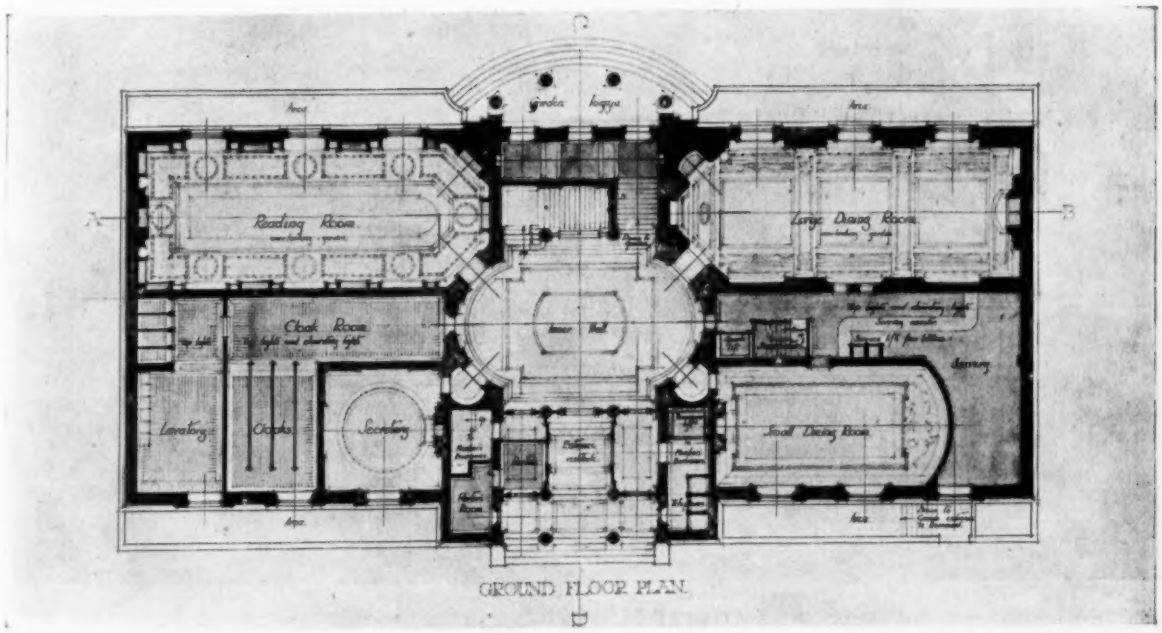
Design for a London Club House : General Elevation (Royal Academy Travelling Studentship).
By Mr. BRIAN SAMUEL ROBERTS.



SECTION AA.



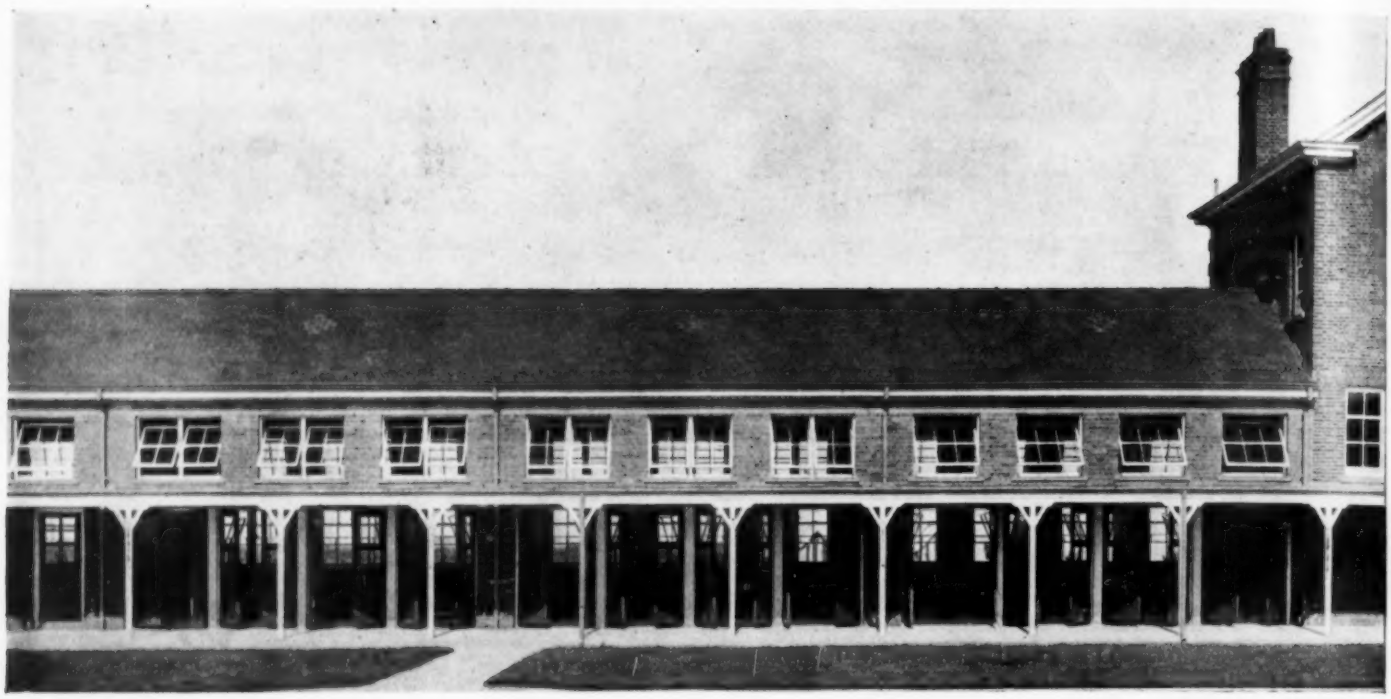
FIRST FLOOR PLAN.



GROUND FLOOR PLAN.

Design for a London Club House (Royal Academy Travelling Studentship).

BY MR. BRIAN SAMUEL ROBERTS.



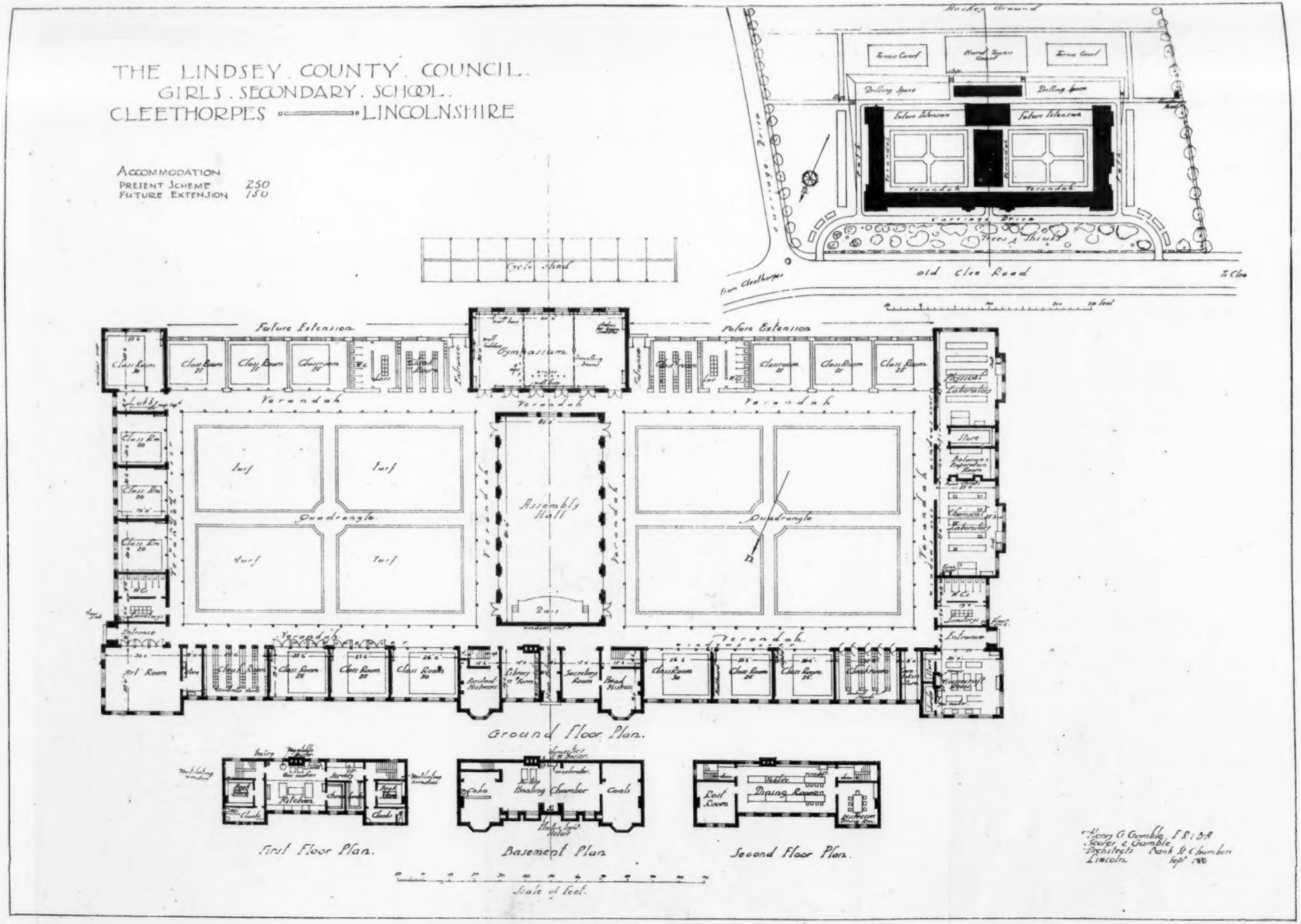
DETAIL OF VERANDA AND CLASSROOMS.

GENERAL VIEW OF QUADRANGLE.

VIEW OF MAIN FRONT.

Cleethorpes Secondary School for Girls.

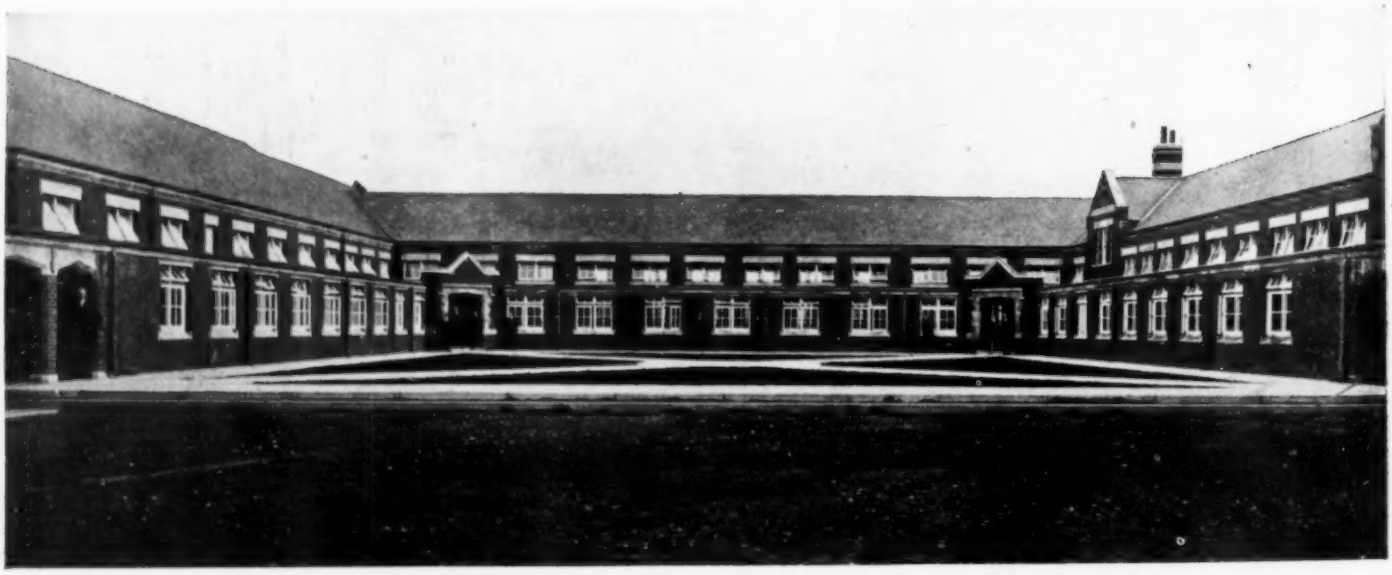
MR. HENRY G. GAMBLE, F.R.I.B.A. (Messrs. Scorer & Gamble), Architect.



Cleethorpes Secondary School for Girls.

MR. HENRY G. GAMBLE, F.R.I.B.A. (Messrs. Scorer & Gamble), Architect.

ANGLE OF UPPER QUADRANGLE.

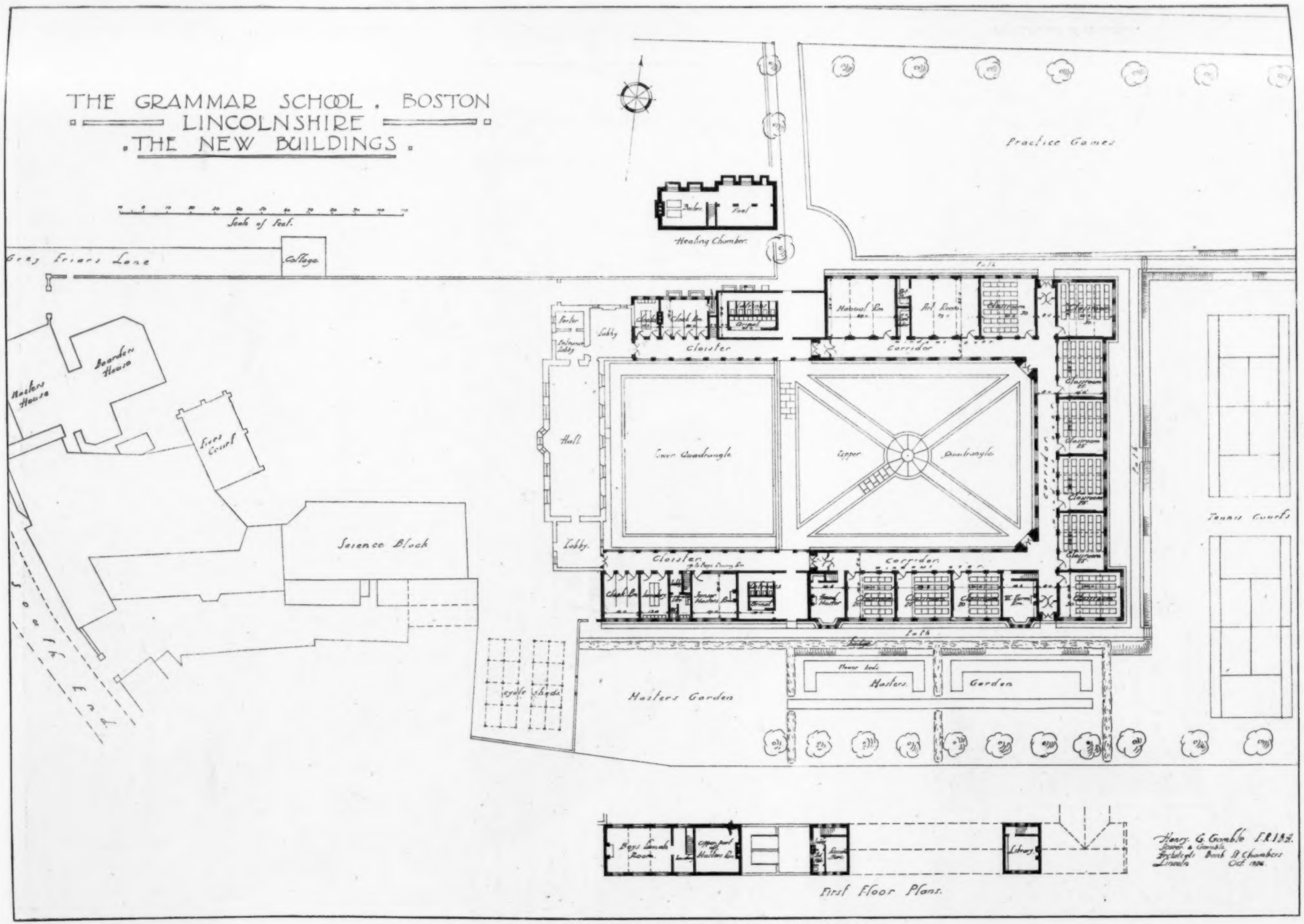


UPPER QUADRANGLE.

GENERAL VIEW OF EXTERIOR.

New Buildings, Boston Grammar School, Lincolnshire.

MR. HENRY G. GAMBLE, F.R.I.B.A. (Messrs. Scorer & Gamble), Architect.



New Buildings, Boston Grammar School, Lincolnshire.

MR. HENRY G. GAMBLE, F.R.I.B.A. (Messrs. Scorer & Gamble), Architect.

MAIN FRONTAGE.

DETAIL OF ENTRANCE.

Offices of the Lincoln Wagon & Engine Co., Ltd., Lincoln. MR. HENRY G. GAMBLE, F.R.I.B.A. (Messrs. Scorer & Gamble), *Architect.*

THE ROYAL ACADEMY STUDENTS' DRAWINGS

THE excellent set of drawings by Mr. Brian Samuel Roberts take the travelling Studentship (£60, tenable for one year), for a design for a London Club. The plan is well laid out on simple lines, the centre of the site being occupied by an elliptical inner hall which repeats on the first floor. The light is obtained through three stories between high-pitched roofs and does not seem quite ample. A rather large proportion of the main entrance front on the ground floor is occupied by lavatory and service accommodation. Generally speaking, however, the plans are well arranged and give half-a-dozen fine well-proportioned apartments. The exterior treatment is a refined and simple treatment and would have gained by a little more muscularity of detail; the porch is not very happy. On the whole, the design is a very creditable one. The design which comes second (141) has a good deal of merit, but the size of the rooms has been rather sacrificed to window spaces, and the main entrance is rather mean. The third design shown (143) was obviously out of the running and does not show much dignity of treatment.

The Landseer Prize (£20 and a silver medal) is awarded to Mr. H. B. Lyle Horner, which has a square vaulted hall in plain brickwork. There is no special interest in this building, which lacks distinction. The design (146) has merit of mass and grouping. Amongst the other designs there was one of some good quality (152), which, both in design and drawing, merits commendation for it, nearly as good in its way as Rennie's Waterloo Bridge.

In the Lower School, the prize of £10 and silver medal goes to Clifford Sidney William Strange for his University Library design, which has a certain dignity of treatment, but has a great many more cubic feet than the subject calls for. Other designs come nearer the better solution as regards general treatment.

Amongst the interesting studies by Mr. H. Furze, made during his holding of the Travelling Studentship, are some admirable details of drawings in the Palazzo Vecchio Air Station, which subject has never been better illustrated. The Measured Drawings Prize is not awarded. The Perspective Study Prize is awarded to Mr. Thomas Harley, but the drawing of the arches suggests a lack of keen feeling as to the perspective.

Prize List.

Landscape Painting, "A River Lock," Creswick Prize (£25) and silver medal, Teng Hiok Chiu.

Design in Monochrome for a Figure Picture, "Christ Expelling the Money-changers from the Temple," Armitage Prizes, first (£30) and silver medal, not awarded; second prize (£10) and bronze medal, Edwin John.

Design for the Decoration of a Portion of a Public Building, "Pioneers: A Decoration for a Wall in the Colonial Office," Landseer Prizes, first (£30) and silver medal, not awarded; second (£10) and bronze medal, Marjorie Brooks.

Composition in Colour, Prize (£5) and silver medal, Gladys Anson.

Cartoon of a Draped Figure, "A Roman Orator Speaking," Landseer Prize (£25) and silver medal, Leonard Harry Wells.

Two Paintings of a Figure from the Life, first prize (£10) and silver medal, Teng Hiok Chiu; second prize, bronze medal, Leonard Harry Wells.

Portrait Study of a Lady in Evening Dress showing Arms and Hands, Arthur Hacker Prize (£30) and silver medal, Helen Mary Graham Wilson.

Painting of a Head from the Life, Life Size, Arthur Hacker Prize (£20) and silver medal, Irene Clara Wyatt.

Set of Four Drawings of a Figure from the Life, first prize (£10) and silver medal, Amy Elton; second prize (£5) and bronze medal, Teng Hiok Chiu.

Best Finished Drawing of a Head in any Set, Prize (£5), Nancy Charlotte Barker.

Drawing from the Antique, Prize (£5) and silver medal, not awarded.

A Pencil Study of a Landscape Foreground, Duff-Greet Prize (£10) and silver medal, no competition.

Model of a Design of a Subject combined with Architecture, "A Marble Mantelpiece for a State Room," Edward Stott Prizes, first (£50) and silver medal, not awarded; second (£20) and bronze medal, Alice Bertha Tippin.

Two Models of Busts from the Life, first prize (£5) and silver medal, Ernest Albert Jones; second prize, bronze medal, Hilda Beatrice Ainscough.

Model for a Medal or Coin, A Medal for Award to the Exhibitor of the best work in the Royal Academy Summer Exhibition, prize (£10) and silver medal, Alice Bertha Tippin.

Set of Three Models of a Figure from the Life, Landseer Prizes, first (£30) and silver medal, Ernest Albert Jones; second (£20) and bronze medal, Alice Bertha Tippin.

Design in Architecture, A London Club House for 1,000 Members, Travelling Studentship (England) (£60), tenable for one year, Brian Samuel Roberts.

Set of Measured Architectural Drawings, "The Court Room of Brewers' Hall," first prize (£10) and silver medal, not awarded; second prize, bronze medal, not awarded.

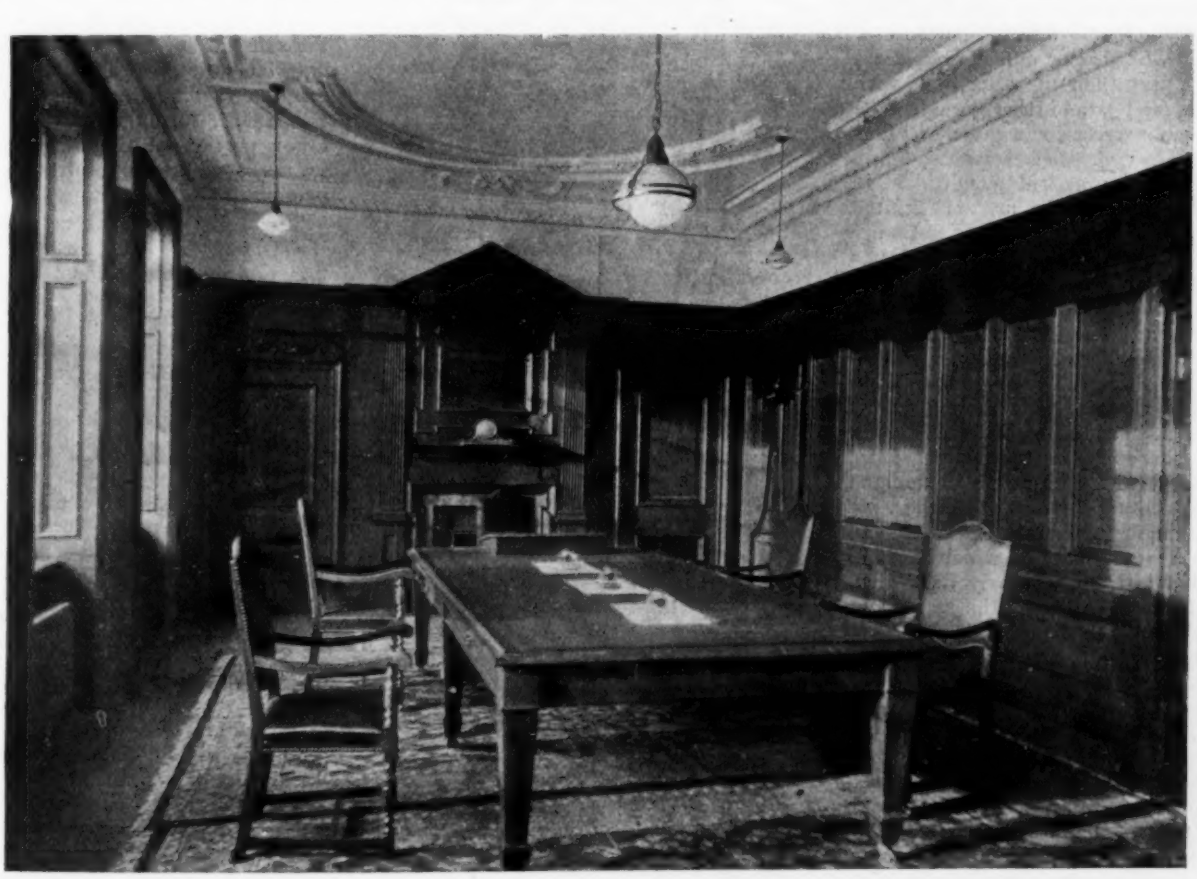
An Architectural Design, Landseer Prize (£20) and silver medal, Hugh Baldwynne Lyle Horner.

An Architectural Design (First Term Students only), first prize (£10) and silver medal, Clifford Sidney William Strange; second prize (£5) and bronze medal, Christopher Green.

An Original Composition in Ornament (Architects only), prize (£5) and silver medal, no competition.

Perspective Drawing in Outline (open to all Students), "The Tower of St. James's Church, Piccadilly," silver medal, Thomas Harley.

Landseer Scholarships in Painting and Sculpture, of £40 a year each, tenable for two years have been awarded—in Painting, to Edith Ruby Brews, Teng Hiok Chiu, and Robert Duckworth Greenham; in Sculpture, to Winifred Turner.



Offices of the Lincoln Wagon & Engine Co., Ltd., Lincoln: The Board Room.

MR. HENRY G. GAMBLE, F.R.I.B.A. (Messrs. Scorer & Gamble), Architect.

CONSTRUCTIONAL STEELWORK SIMPLY EXPLAINED.—XIII

By OSCAR FABER, O.B.E., D.Sc., M.Inst.C.E., etc.

[EDITORIAL NOTE.—*This series, which will be published in book form later, is intended to present the problem in so simple a form as to be readily understood by those having no special engineering training.*]

STANCHIONS.—It has already been explained, in connection with the compression flange of girders, that when these are long in relation to their breadth they tend to buckle or bend, and if we are to design for a constant factor of safety it becomes necessary to adopt a reduced working stress as the slenderness ratio gets greater. The exact extent to which the stress has to be reduced with a given slenderness ratio is a matter requiring some considerable judgment and on which there is considerable confusion.

A mathematician of the name of Euler made some experiments on long struts and at the same time analysed the problem mathematically, and derived formulæ which agreed substantially with experimental values. These experiments and analyses both applied to very long, slender struts where the direct stress (*i.e.*, the load divided by the area) is very small compared with the stress due to bending when the strut begins to buckle. He found a marked difference according to whether the ends were fixed in direction (for example, by being rigidly clamped to the support), or whether the ends were free to rotate (as, for example, when they are supported by a spherical bearing), or when the end is lunged in trunnions, or even simply rounded.

When the ends are fixed the curvature in bending is necessarily a double one (see Fig. 29), whereas when they are hinged the curvature is a single one. Therefore a stanchion with fixed ends deflects less for a given curvature than a stanchion with hinged ends, and would therefore have a higher allowable stress for a given slenderness ratio.

As applied to practical conditions in building, Euler's results are of limited applicability, because we do not use stanchions of the high slenderness ratios to which his formulæ were applicable. On the contrary, a practical stanchion is generally used under conditions in which the direct stress is between 3 and 6 tons per sq. in. There is another difficulty with these formulæ, and that is, that though in his experiments the conditions of fixed ends or of hinged ends could be approximated to, it is the exception for a practical stanchion in a building to approximate to either. A practical stanchion generally has one end secured to a base plate of which we can only say that it is more nearly fixed than hinged. At the upper floors the stanchions are generally bolted or riveted rigidly to girders which are themselves subject to some deflection when they are loaded. If the girders are much stiffer than the stanchions, which may be the case near the top of the building, the stanchions may approximate to the condition of fixed ends, noting, however, that the ends, though fixed, are not fixed quite vertically owing to the deflection of the girders. The lower lengths of a stanchion in a high building are, however, frequently stiffer than the beams or girders to which they are connected, and in this case the discrepancy from fixed ends is greater.

The L.C.C. regulations for stanchions are indicated on Fig. 30 by the full lines, and it will be seen that they follow Euler's treatment in regard to distinguishing between fixed and hinged ends, but not as regards the form of the curve or the stresses. It has already been explained that this conception of fixed or hinged ends has little meaning in practical work.

It may perhaps be permitted to criticise the L.C.C. curves without any intended disrespect to their originators, as we have perhaps a clearer knowledge of the subject than was the case in 1909. The curves appear to be faulty in conception, not only because of the ambiguity as regards fixed and hinged ends in practice, but also for the following reasons.

With very short stanchions the question of buckling does not arise, and therefore there would be no difference in safe stress whether the ends were fixed or not. There is therefore no justification for two of the curves starting with a safe stress of 4.5 and 5.5 for short stanchions where buckling cannot arise. Obviously, for such short stanchions the full compression stress could be allowed. Secondly, it is clear that if 7½ tons is permissible for the compression in the flange of a girder, it ought to be equally permissible for a short stanchion where there is no risk of buckling.

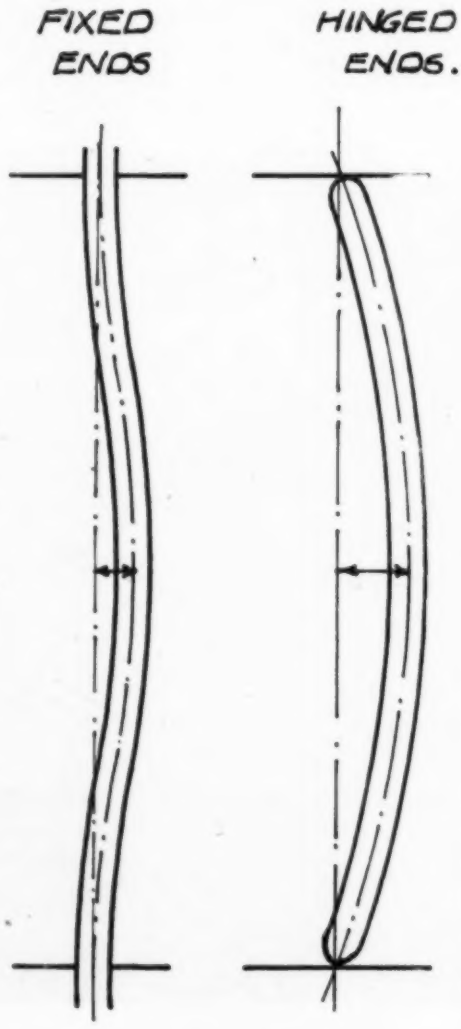


FIG. 29.

A study of the actual experimental values of columns subject to buckling shows that the shape of the curve at high slenderness ratios tends to flatten out just where the L.C.C. curves become steeper, showing that the L.C.C. curves would have been not only simpler, but also more accurate, if the straight portion for the upper length had been allowed to run through straight instead of being bent down as shown.

On Fig. 30 three curves are also indicated from Moncrieff's formulæ. These are undoubtedly much more accurate than the L.C.C. figures, and it will be seen that they introduce the idea of flat-ended stanchions. The formulæ are altogether to be preferred, as giving more reasonable stresses for short stanchions where buckling does not arise, and in that the shape of the curves conforms much more accurately to experimental work.

If a curve of a simpler form than Moncrieff's is desired for practical steelwork design, remembering that stanchions are neither fixed nor rounded as to their ends, the author would much prefer the straight line formula, shown in Fig. 30 by a thick line, and would have no hesitation in using this for any practical steelwork stanchion with the ordinary riveted connections at the top and bottom. This line has the simple formula

$$\text{Safe stress} = 7\tfrac{1}{2} - \frac{l}{70r} \text{ tons per sq. in.}$$

It will be seen that it lies everywhere on the safe side of the Moncrieff formula with flat ends, but lies outside the L.C.C. formulæ, coinciding approximately with the L.C.C. formula for fixed ends at the lower portion of the diagram, but giving somewhat higher results at the higher portion of the diagram.

The writer thinks there is no doubt that if 7½ tons is safe for the compression flanges in girders it must also be accepted as permissible for very short stanchions where the question of buckling does not arise. This simple formula is reproduced again in Fig. 31 free from the distraction of the other curves for more convenient use.

It will be noticed that the safe stress is stated in these diagrams not in terms of the ratio of length to diameter or thickness, but in terms of the ratio of length to a quantity denoted by r, called the least radius of gyration. The reason for this is the following.

If we make a series of experiments on stanchions to ascertain the safe load for various slenderness ratios for columns of various sectional forms, such as circular, rectangular, joist section, and so on, we find that if we denote the slenderness ratio in terms of length divided by diameter we get different curves for the different sections, but that if we put the curve in terms of length divided by a quantity r, called the radius of gyration, then one curve will serve for all stanchion forms, which is obviously a matter of convenience.

The radius of gyration itself is a somewhat complicated mathematical entity and is expressed by

$$r = \sqrt{\frac{I}{A}}$$

where I is the moment of inertia of the section and A the cross-sectional area. The moment of inertia is a quantity perhaps best excluded from any treatment which pretends to be simply explained, and therefore this side of it will not be followed up in this treatise.

For our present purposes it will suffice to know that the radius of gyration has the following value :—

(*a*) *In solid rounds.*

$$r = .25d$$

where d is the diameter.

(*b*) *In solid rectangles.*

$$r = .289d$$

or $$.289b$$

where d and b are the depth and breadth respectively, and the lower value is to be taken.

(*c*) *In plain joist stanchions.*

$r = .2b$ approximately
$= .4d$ approximately

where b and d are the breadth and depth respectively. The lower of these values of r is to be taken.

(*d*) *In plated joist stanchions.*

$r = .23b$ approximately
$= .43d$ approximately.

These values enable us for all practical purposes to state at once the radius of gyration for any practical shape of stanchion.

In the case of solid circles and rectangles the values are accurate and in the other cases are very approximate.

For example, a 24 × 7½ joist would give

$r = .2b$
$= .2 \times 7\frac{1}{2}$ in.
$= 1.5$ in.

where the exact value is given by the tables as 1.51.

Similarly, the other radius of gyration is given by

$r = .4d$
$= .4 \times 24$ in.
$= 9.6$ in.

as against 9.5 in. given by the tables.

In plated joist stanchions we may consider a 24 × 7½ joist with 14 × 1½ in. plates on each flange, making a total depth of 27 in. and a breadth of 14 in. Here our formula gives

$r = .23b$
$= .23 \times 14$ in.
$= 3.21$ in.

as compared with 3.24 in. given by the tables, and

$r = .43d$
$= .43 \times 27$ in.
$= 11.6$ in.

as compared with 11.53 in. given by the tables.

The reason stanchions generally have two radii of gyration is because the stanchion is generally more liable to bend in one direction than it is in the other, and the two radii correspond to the two directions. In practice we adopt the lower value, as the stanchion will fail in the weaker direction.

As an example of the use of the table, Fig. 31, let us take the case of the stanchion previously referred to, consisting of a 24 × 7½ joist with 14 × 1½ plates on each flange, forming a stanchion 27 × 14 overall.

The least radius is

$.23 \times 14$ in. $= 3.21$ in.

The other radius is

$.43 \times 27$ in. $= 11.6$ in.

and does not interest us, as we are bound by the lower value of 3.21.

If the stanchion is 12 ft. high between floor levels where it is stayed, its slenderness ratio will be

$$\frac{r}{l} = \frac{144 \text{ in.}}{3.21 \text{ in.}}$$

$= 45$ approximately,

whence from the diagram, Fig. 31, the safe stress is 6 tons per sq. in. As the sectional area is 71.4, the safe load is therefore

$P = 71.4 \times 6$
$= 428.4$ tons.

THE WEALTH OF THE NATION

DISCUSSION AT THE R.I.B.A.

THE series of conferences between architects and building trade workers, organised by the Royal Institute of British Architects, was continued on Tuesday, when Mr. G. W. G. Newton, M.A., F.R.I.B.A., opened a discussion on "The Wealth of England."

He was not, he said, concerned with the financial wealth of the country, but the wealth that, no matter how many it is shared by, did not deteriorate or lose any of its beauty. He was concerned with man-made beauty; that beauty created by man that gave a glimpse of something in man that thought of something more than feather beds and meals. In the building arts, if they were attuned, they caught from time to time a sense of refreshment and inspiration in seeing how their fellow-men had contrived to hand on a sense of sanity and peace or a sense of awe and wonder. The statements of political economists that wealth lay in the increase of goods had confused the thoughts of the public. It was natural, that, with a view of life coloured by the philosophy of the day, a man would look to get all he could for himself out of the wealth he helped to create, and would crave for something quite apart from his life's work. To some extent, they all subscribed to the opinion of the economist that wealth lay in the interchange of goods, no matter what the nature of the goods, so long as they were required by somebody. But surely, the nature of the goods mattered supremely. The wealth of a nation was the well-being of the human beings in it; the Greeks well understood that the greatest human good lay in the delight of making goods with skill. There were in this country many men of high skill who were very jealous of the reputation of their trade; craftsmanship was as much alive to-day as ever. The elaborate mechanical equipment of modern joiners' shops and stonemasons' yards still needed the skill of men who could master the machines and produce fine things. All over the country was a rich heritage of ancestral skill. That was something that was lacking in America; with all her advantages, America had to go to Italy for skilled masons and to England for her bricklayers and other craftsmen. That precious heritage of craftsmanship must be kept alive by architects, by encouragement, judicious praise, and knowing what was good.

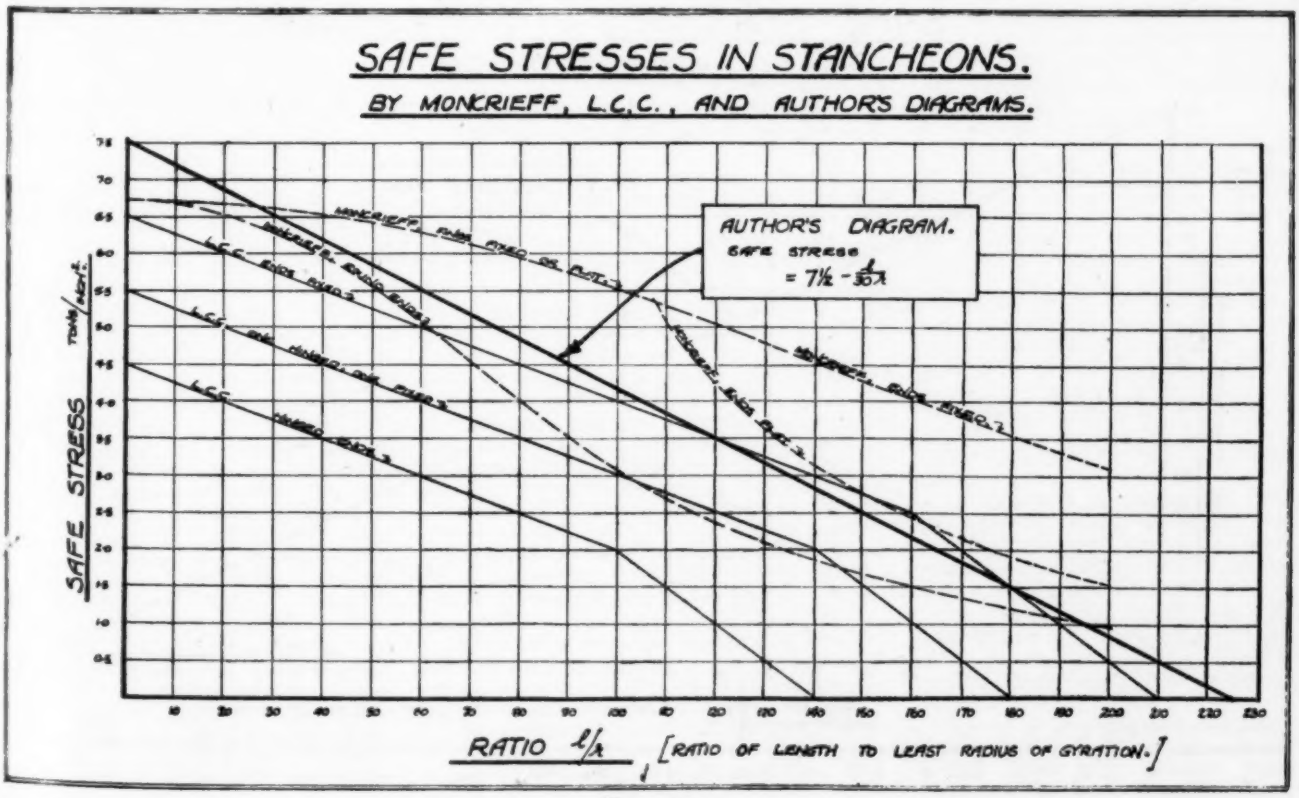


FIG. 30.

It was a criticial task in which architects must not be found wanting, for once the fire was out it could not be rekindled. English people had an instinctive aptitude for neatness and tidiness and a ship-shape job. Building operatives would look aghast if asked for a rough surface on brickwork or wood; they would think they were being asked to scamp the work. There was a need not only for the architect and craftsman to understand each other, but for both to band together and help in the fight against meanness in building. It had been said: "Ancient civilisations were destroyed by imported barbarians—we breed our own," and the shoddy habitations of these barbarians were scattered in increasing profusion all over the country. All engaged in building should act as leaders in the growth of a public opinion that would help to put a stop to the destruction of beauty. Legislation was not required so much as the growth of enlightened opinion.

With the exception of vulgarities in Jacobean times, almost all building up to the beginning of the nineteenth century was good, but with the invention of the steam engine it nearly all became bad. During the past forty years they had been slowly fighting back to the old standard of beauty. There were two consequences. One was that some people thought that only old things were good. That was a snare, for they could see the beauties of old work quite apart from the moss on the roof. Architecture had definite qualities that could inspire them without making them want to imitate or fake to get an appearance of age. But in a land like our own, closely built upon already, it was not desirable to make a complete break-away from all that had gone before, for every building that was put up was close to something else and must be suitable to its surroundings. There could be harmony without imitation. The second consequence of the admiration of old work was that many of them, seeing the horrors of the nineteenth century, had been led to believe that variety was a great virtue, and from that arose a very common error of taste. With the idea of getting away from monotony, the builders of small houses were often not content to build with one material only for the walls and one material for the roof. Both brick and rough-cast were used for the walls; stained glass was put in the windows; roofs were broken by gables and crests and finials—a nightmare of variety run mad. The same mania for variety was to be seen in the streets, where houses were set at all angles and at various distances from the building line, just because it was desired to get away from what was supposed to be monotony. But variety was more subtle than these devices, and, as a matter of fact, architecture got its finest effects by repetition.

In a street of houses, if an architect had a free hand, he would aim at making a pattern, with broad recesses and a certain bringing forward, thinking of the street as a whole and of the houses in relation to the countryside. The architect must have in mind all that was to go with the building, such as other buildings, hills, trees, the nature of the countryside, and the fall of the sunlight. In a street of houses there was no necessity to use different colours for the different houses if the monotony of the houses could be relieved by a mass of trees, or other feature. Variety was not a matter of colouring each half of a house differently. What was needed to-day was not greater variety, but greater uniformity, as could be seen if the dignity of the uniformity of Regent-street Quadrant were compared with the restlessness of the new street. Care had to be taken in selecting materials for different colours. In walls, for instance, certain machine-made red bricks had every appearance of india-rubber, and they were not efficient because frost broke them up. In half-timber work the whole beauty of the wood was in the sense it gave of gnarled boniness, such as was seen in old barns and farm buildings, and this could never be obtained by imitation half-timbering. The roof, above everything should give a sense of security and safe covering. If possible, it should be unbroken. If there were dormers they should seem to grow out of the roof. The roof was the culmination of the house, and the house should be built from the roof downwards. If the spectator were to get an impression of cosiness and security, not only must the roof be satisfying in form, but the materials must be good. Architecture should satisfy the practical need for shelter in such a way as to appeal to something spiritual in man, and that could only be done through the eye. Therefore appearance was the essence of the problem. That was not to say that materials might be unsound if they appeared sound, for if materials were unsound the architect had failed in the practical side of his art, and if materials looked unsound he had failed in the spiritual problem. The first aim of the architect should be to get a feeling of repose and serenity. Repose was mostly obtained by horizontal lines, but it could also be obtained by vertical lines if the building were carefully designed. For repose in building, repetition, skilfully managed, was basic. Architecture might get away from repose, and give a sense of awe and wonder by other means, as had been done at Chartres Cathedral. The sense of awe is given by something that not only was big but looked big, and there the question of scale came in. Man was the measure underlying all architecture. Certain things, such as doors, steps, and balustrades, and in a lesser degree windows, must be of a size to fit mankind, however big the building. If the architect was to add to the wealth of the people he would study the work of all nations, but he would not forget he was a Briton. As he went about his own land with a rule and sketch-book he would hardly find a village or a town without its little store of hidden wealth. The part of the craftsman in building was as vital as the part of the architect. Without the other, neither could succeed in what mattered. They were concerned not only to preserve the wealth of the nation from destruction and damage by the meanness and vulgarity of much of the work of to-day, but also to make new wealth for the present generation and the future. The craftsman might be apt only to see good in a building if it made use of his own trade, and to condemn or praise a building according to whether his own trade were represented or not. But the craftsmen must remember that they were parts of an orchestra, and that it must rest with the architect as to which instrument was to dominate in every case. They were engaged in a great contest to protect from damage the heritage they possessed, and to add their contribution to it. It was a hard task, but it was well worth doing, but they would hardly succeed without inspiration and an enthusiasm for their country. At their best moments they felt a responsibility for the beauty of their country, and they owed it to their loyalty to keep the land at least as beautiful as they found it.

At the conclusion of the address a discussion took place as to the future of the conferences. Four only were arranged, and these have all been held. It was unanimously agreed that they were of great value, and that they should be continued in the New Year. The subjects for future meetings were discussed, and it is proposed that important buildings, new and old, be discussed. It has provisionally been agreed that Liverpool Cathedral and Westminster Abbey shall be the first two buildings to be discussed, and one of the operatives has agreed to give an address on building materials.

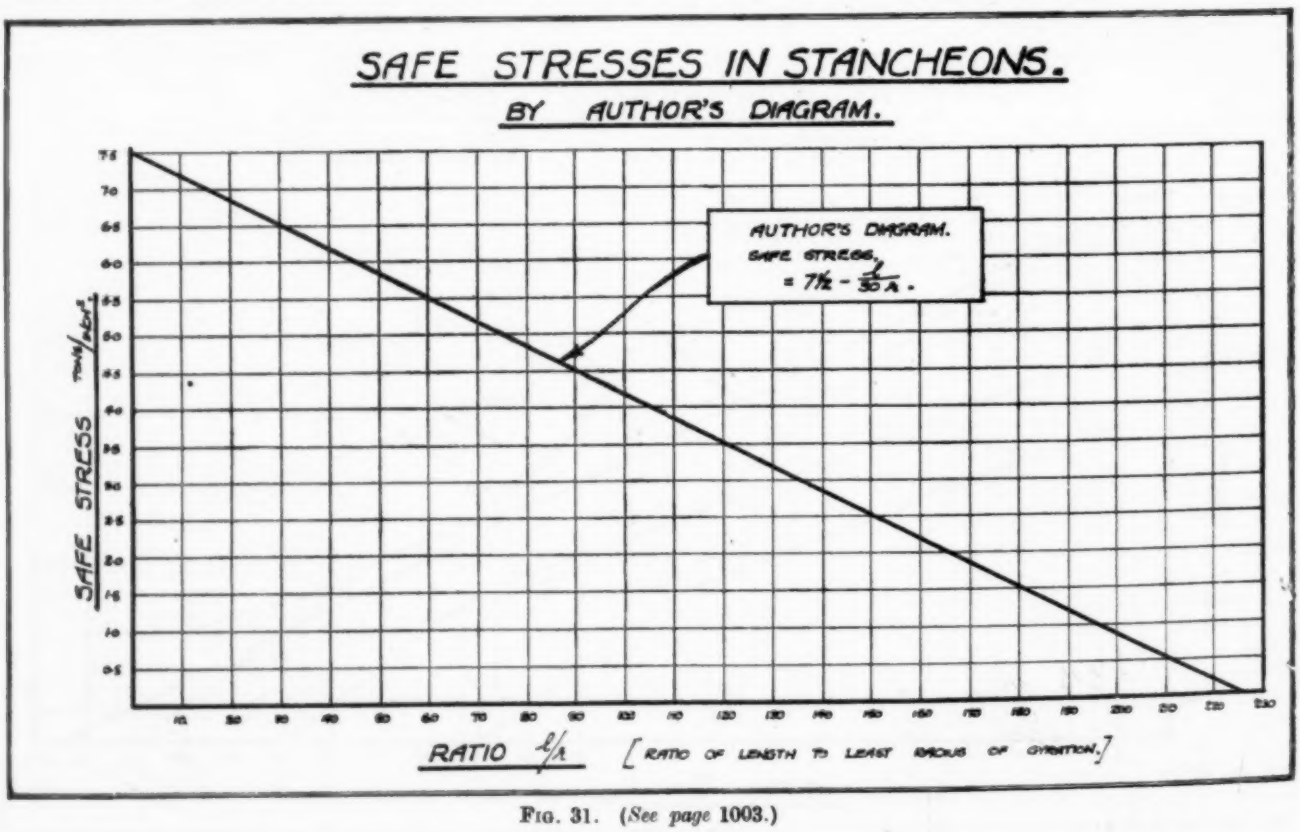

SAFE STRESSES IN STANCHEONS.
BY AUTHOR'S DIAGRAM.
AUTHOR'S DIAGRAM.
SAFE STRESS, = 7½ - l/30 r.
SAFE STRESS
RATIO l/r
[RATIO OF LENGTH TO LEAST RADIUS OF GYRATION.]

FIG. 31. (*See page* 1003.)

SPECIFICATIONS.—XLVII

BY H. V. MILNES EMERSON, A.R.I.B.A.

PAINTER.

PAINTS used upon buildings generally consist of a base mixed with a fluid known as the vehicle, to which are added a solvent to make the paint work freely, and driers to cause the vehicle to dry quickly.

The materials commonly used in the composition of the above are as follows:—

Bases.—White and red leads, zinc, and iron oxides.

Vehicles.—Vegetable and mineral oils.

Driers.—Litharge, acetate of lead, sulphate of zinc, red lead, terebene, binoxide of manganese, &c.

Solvents.—Turpentine and substitutes.

Colouring pigments.—Natural earth colours, ochre, sienna, umber, vandyke brown, &c.; manufactured colours from ores and metallic salts, such as venetian and Indian red, lamp black, chromes, blues, &c.

White lead is a carbonate of lead. The best is produced by the stack process, which consists of placing lead ingots in tan and exposing them to the fumes of acetic acid, which corrodes the lead forming a carbonate crust which is removed and ground into a powder. Alternative methods of producing white lead consist of precipitating the lead by passing carbonic acid through solutions of different salts of lead, but white lead produced by these methods is generally considered inferior to the stack process as it has less density or body and absorbs more oil. Pure white lead is a heavy powder which is insoluble in water, but easily soluble in dilute nitric acid. It effervesces with dilute hydrochloric acid, dissolving when heated. If exposed to the air it will soon turn grey, and if heated on a slip of glass will turn yellow.

Genuine white lead is the principal base or pigment used in paint, and is put on the market in a powder form, or in a paste containing 6 to 9 per cent. of linseed oil, or in a ready mixed paint. White lead when pure is labelled "genuine" and when mixed with other substances it is labelled "reduced."

The most common adulterant employed is sulphate of baryta, a dense, heavy, white substance, and very like white lead in appearance. Other substances used are sulphate of lead, sulphate of lime, chalk, &c.

White lead improves with keeping and will go further and last better than new white lead. Paint made with new or fresh white lead has a tendency to turn yellow.

Red Lead.—This is made by heating to a high temperature oxide of lead, which absorbs oxygen from the air and is converted into red lead, usually a bright red powder. It is used as a drier, also for priming woodwork and for painting iron-work.

Oxide of zinc is now largely used as a base for paint. It is prepared by distilling metallic zinc in retorts, when the metal is volatilised and the white oxide is condensed. It is non-poisonous and does not blacken when in contact with sulphuretted hydrogen. It has not the same density or covering power as white lead, but weight for weight will spread over a larger area. It is good for internal work, but if used for external work it should be mixed with best quality pale varnish or with white lead.

Vehicles.—Linseed oil is generally used in paint. It is obtained from the seeds of the flax plant, cultivated chiefly for its fibre. The seed is rolled into a meal, steamed and pressed to extract the oil. Another method is to extract the oil from the crushed seed by means of a solvent, the solvent and oil being afterwards separated by distillation. The oil produced is called raw linseed oil. It should be pale in colour, perfectly transparent, practically free from smell, and sweet in taste. Refined linseed oil is largely used in varnish making. Boiled linseed oil is the raw oil heated to a temperature up to 500 deg. F. Red lead, litharge, manganese, &c., can be added to promote quicker drying. Boiled oil can be obtained pale or dark in colour.

Linseed oil oxidises and becomes thick upon exposure to the air and is superior to other fixed oils in body, tenacity and drying powers.

Raw linseed is clear and light in colour, works smoothly, and is suitable for internal work and light tints.

Refined linseed oil is used for light tints, but the transparency is not retained, the pale colour of the oil returns in the drying.

Boiled linseed oil dries much quicker than the raw oil, due to the boiling and the addition of driers. The pale colour should be used for light tints and pale or dark oils for darker tints. It can be used for external and internal work and mixed if required with raw linseed oil.

Boiled oil must not contain oxides of lead if it is to be used with zinc paint. Peroxide of manganese should be used as the driers.

Solvents.—Turpentine forms the most important solvent used in the paint industries. Its composition varies according to the particular species of pine tree from which it is derived. The chief source of turpentine is from the long-leaf pine, which is most prolific in the American forests. The crude resin is distilled, and when properly prepared the turpentine produced is a clear and colourless liquid with a pungent odour. On exposure to the air it oxidises, and is converted into a resinous substance, and when used in paint should dry in 24 hours. It is used to reduce the consistency of the paint and enables the painter to apply thin and even coats. Turpentine rapidly evaporates, leaving a slight residue. Turpentine also facilitates the drying of the oil in the paint.

The chief source of supply is from the United States, which produces about 65 per cent., the remaining 35 per cent. coming mainly from France.

The main substitute for turpentine is the white spirit obtained from petroleum hydrocarbons. As with other materials used in the preparation of paints, it should comply with the British Standard Specification. For some purposes white spirit is inferior to turpentine, in other cases it is in every way equal, whilst there are purposes for which it is superior to turpentine.

Driers.—Driers, when added to paint, causes the oil to thicken and solidify more rapidly. They can be obtained in liquid or paste form. When in a liquid form the driers are usually concentrated and care must be taken not to use an excessive quantity, otherwise the drying of the paint will be retarded. When in paste form a large percentage of some inert material is added to prevent an excess of driers being used.

The principal driers are as follows:—

Litharge, or oxide of lead, is the drier most commonly used.

Sugar of lead (acetate of lead) ground in oil.

Sulphate of zinc and copperas used for light tints.

Red lead (oxide of lead) is often used when colour is suitable but is not so quick in action as litharge.

Sulphate of manganese is probably the best drier for zinc paint. Sulphate of zinc is also suitable for zinc paint.

Oxide of manganese has a very dark colour; and is quicker than sugar of lead.

Colouring Pigments.—The colours used in paints are obtained from the natural earth or are artificially made. They are subject to changes of colour under the influence of bright light, &c. The most constant are those from the natural earths, also zinc oxide, ivory, or lamp black.

Varnishes are made from gum resins dissolved in oil, turpentine, or alcohol, and the oil dries whilst the solvent evaporates, leaving a transparent film of resin upon the surface varnish.

Oil varnish is made from a hard gum dissolved by heat in linseed oil to which turpentine is added. It can be obtained in all grades and is suitable for interior and exterior work.

Water varnish is made from shellac dissolved in hot water mixed with sufficient soda, borax, potash, or ammonia, to effect the solution. The varnish will just bear washing.

Spirit varnish is made of soft gums dissolved in spirits of wine; they dry quicker, harder and more brilliant than turpentine varnish. Knotting and shellac varnish are the best known They should only be used on work not exposed to the weather. This varnish can also be made to dry with a matt surface.

Turpentine varnish is made from soft gums dissolved in the best turpentine and gives a matt surface. It dries quickly and is lighter in colour than oil varnish, but is not so durable.

Distemper is composed of a coloured pigment mixed with clean water and size or other fixing material.

Aluminium paint is made by mixing pure aluminium ground to a powder in a suitable varnish. It has the quality of withstanding extreme heat without losing lustre and is anti-corrosive.

Black Japan is made from Syrian asphaltum and varnish and should dry in six to eight hours.

Claircolle is a weak solution of ordinary size to which a little of the distemper has been added. Usually it is applied hot on plastered walls and ceilings to form a preparation "key" for the following distemper coat.

Covering Power.—The following are the covering or spreading capacities of pigments of equal weight:—

Zinc oxide,	126 sq. yds.	White lead,	72 sq. yds.
Red lead	96 ,,	Red oxide	53 ,,

Enamel paint is prepared from a high-class base or pigment and varnish. Work finished in white enamel cannot be equalled in whiteness by painting and varnishing in the ordinary way. Enamels can be obtained to dry with a glossy or matt surface, and they can be obtained in a variety of tints. Enamel paint on metal is increased in durability by stoving.

A new enamel with a future before it is the cellulose enamel. It is very quick drying and has a surface which is very much harder than ordinary enamel. Cellulose is a cotton fibre, which has been washed, bleached, treated with nitric and sulphuric acids, then washed and dried. It is now in the form of nitro-cellulose or gun-cotton, and for safety it can be damped with alcohol. The composition of this enamel is briefly as follows: The solids consist of nitro-cellulose, pigments, camphor and resins, and the solvents and non-solvents are amyl, ethyl-acetate, benzol, toluol or denatured alcohol, with the addition of castor oil, butyl tartrate, &c., to impart elasticity and to retard drying. This enamel, which is used largely for motor cars, is sprayed upon the surface to be enamelled and dried in about thirty minutes. The work to be enamelled must be properly primed, stopped and coated with hard filler. Each coat should be hard and well rubbed down before the next is applied. There appears to be no reason why this enamel should not be used on high-class building work.

Ready-mixed paints have now practically superseded the old method of paint mixing on the job. The paints, varnishes and enamels should be used as received from the makers, and in accordance with their instructions. As the painter has his own opinions upon the paint supplied, he sometimes adds solvents, &c., to make it work easily, often to the detriment of the paint. Reputable paint manufacturers, if advised, make a point of sending a representative to the job where their paint, &c., is being used in order to see that the material is being applied in a proper manner. When ready-mixed paints, varnishes and enamels are specified, it should be stated in the specification that no other paint, thinners, driers, &c., will be allowed on the building.

All surfaces to be painted must be thoroughly dry, otherwise a film of moisture between the paint and surface or between two layers of paint is apt to cause blisters when the paint is exposed to the sun or heat from any source.

For iron and steel a paint with a base of re lead, with or without barytes, or a base of iron oxide, is suitable for priming. Many firms have a special ready-mixed paint for priming iron or steelwork.

Galvanised iron and steel and zinc should be exposed to the air at least a month after manufacture before being painted. More perfect adhesion of the paint will result if this is done, as

the exposure produces a thin film of zinc oxide. This film of zinc oxide can also be produced on zinc or galvanised steel or iron by washing or brushing the surface with a preparation containing copper chloride, copper nitrate, ammonium chloride and hydrochloric acid in equal quantities added to half a gallon of water for each 4 ozs. of materials used. The hydrochloric acid should be added to the water after the other materials have been mixed. Plaster surfaces for painting should, if porous or newly plastered, have a priming coat consisting of a small quantity of paint and oil mixed with a large quantity of turpentine to which a small amount of gold size has been added. The plaster surface can then be prepared for painting by carefully stopping all defective work with plaster of Paris, &c., and sized with glue size or primed with a thin coat of white lead and linseed oil.

THE WEEK IN PARLIAMENT

WESTMINSTER, *Wednesday.*

The Unemployed.

Mr. Chamberlain informed Capt. P. MacDonald that according to the last return the number of unemployed persons connected with the building trade in Great Britain was 88,064. Of this number the total of bricklayers, slaters and plasterers was 4,063, while the great bulk amounting to 84,001 were painters, labourers and others. He was not aware that housing schemes were being held up by a shortage of labour of which there was any material surplus elsewhere, and he did not think that any serious difficulty arose in securing the transfer of labour to areas where it was required.

Transport for Workers.

Mr. Forrest asked the Minister of Health whether, in view of the need for additional houses and the amount of unemployment in the building trade, his department would consider the desirability of securing the adoption of better means of transport for workers and the provision of purely temporary housing to enable all arrears to be caught up, particularly in view of the fact that the full subsidy would only be paid on sanctioned houses which are completed by October 1, 1927.

Mr. Chamberlain informed Mr. Forrest that housing was only one part of the building industry, and that the great bulk of unemployed persons in the industry were not members of the skilled trades which were essential for house building, but consisted largely of labourers and others. He was not aware that any serious difficulty arose in securing the transfer of skilled labour to areas where it might be required.

Steel Houses.

Sir J. Gilmour informed Commander Bellairs that, as at end of November, of the 2,000 "steel" houses 1,086 had been completed by the building contractors, 906 were under construction and eight had not been commenced.

Welwyn Housing Loans.

Lieut.-Colonel Horlick asked the Minister of Health if he would state the total amount of housing loans and subsidies granted to the Welwyn Rural District Council, respectively under the 1919, 1923, and 1924 Housing Acts; and how many houses had been completed, or authorised, under those Acts.

Mr. Chamberlain said that the following was the information desired:—

1. *Loans sanctioned for housing purposes to the Welwyn Rural District Council—*

(*a*) For purposes of Housing, Town Planning, &c., Act, 1919 ..	£54,544
(*b*) For purposes of Housing, &c., Act, 1923..	268,412
(*c*) For purposes of Housing (Financial Provisions) Act, 1924 ..	Nil
(*d*) For purposes of Small Dwellings Acquisition Act, 1899	53,613
(*e*) Under Section 92 of the Housing Act, 1925..	318,943
Total	£695,512

2. *Exchequer Subsidies payable—*

(*a*) Under the Housing and Town Planning, &c., Act, 1919 (average)	1,240*
(*b*) Under the Housing, &c., Act, 1923	3,192†
(Excluding grants amounting to £4,000 per annum in respect of houses erected by Public Utility Societies referred to in the answer to the Hon. and Gallant Member's question of November 16.)	
(*c*) Under the Housing (Financial Provisions) Act, 1924	Nil

*For 60 years. †For 20 years.

3. *Number of houses authorised for erection in the Welwyn Rural District—*

(*a*) Housing, Town Planning, &c., Act, 1919..	270
(*b*) Housing (Additional Powers) Act, 1919	19
(*c*) Housing, &c., Act, 1923.. ..	1,178
(*d*) Housing (Financial Provisions) Act, 1924..	Nil
Total	1,467

Rural Housing.

In the House of Lords the Housing (Rural Workers) Bill was read a second time. Lord Olivier, on behalf of the Labour Party, objected to the Bill, and contended that it would not benefit the large numbers of people who owned their own cottages and could not afford to make them habitable.

Lord Strachie welcomed the Bill as far as it went, but regretted that the value of the cottage or house coming within the scope of the measure had not been extended from £400 to £500. He regarded it as very doubtful whether the ordinary landlord would avail himself of the assistance given by the Bill, because of the restrictions contained therein.

Lord Parmoor said that the Bill left untouched those cottages held by poor investors who in present conditions were quite unable to spend money for repairs or improvements. A landowner had a social duty to keep the cottages on his estate in repair. An obligation would have to be placed on those who employed labour to provide adequate and decent accommodation for their employees.

CORINTHIAN CAPITALS

SIR BANISTER FLETCHER, V.-P.R.I.B.A., recently gave a lecture at the Central School of Arts and Crafts on the origin and use of the Corinthian Order, which, he said, was Greek by birth and Roman by adoption. The love of the Greeks for the beautiful, and their gift for developing art forms tempted them, for a time, away from the sturdy Doric and the simple and slighter Ionic to that more varied and ornate combination of nature-forms which became known as Corinthian. Doric and Ionic were both tribal names, but Corinthian bore no such meaning. Some of these early capitals were in bronze, a metal worked in Corinth by a certain Callimachus, and thus known as Corinthian bronze—much as we call a certain product "Sheffield plate." So the material may have given the name to the style. The speaker considered that, as to origin, it was hardly likely that the new Order was suggested by the anthemion necking of the Ionic capitals of the Erechtheion, because that did not account for the altered shape and increased height. It was more probable that Greek artist-craftsmen, who ever sought some new thing, seized upon the Egyptian lotus and papyrus prototypes at Karnak and Philæ and from them reproduced the bell-shaped capital, sheathed in tiers of carved acanthus leaves and curling calices. Greek imagination was strong enough to create the Order, but Greek love of simplicity was stronger, and the Order was little used by that nation, except in small buildings, like the Choragic Monument of Lysicrates and the Athenian Astronomer's "Tower of the Winds." It made, however, later on, a stronger appeal to the Romans.

ARCHITECTS' & BUILDERS INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting!—ED.

Damp Internal Walls.

[REPLIES TO "DAMP WALLS," DECEMBER 10.]

SIR,—I have had some experience with damp walls arising from absence of damp-course and, having tried many remedies, I am convinced that the only sure remedy, other than inserting an earthenware damp-course, is to strip the plaster, line the walls with slate up to a height of 6 ft. or higher if necessary, and cover with rendering rich in cement. It is an expensive process, but often the cheapest in the long run.

X. Y.

SIR,—Your correspondent has built hollow walls of concrete blocks and is troubled by dampness and rain-water percolating to the inside face, especially about sills and lintels. Hollow walls are built chiefly to prevent interior dampness, but unless great care is taken in fixing frames, sills and sashes, and in cleaning wall ties as work proceeds, moisture will find its way to the interior, whether the walls be of concrete or brick.

Your correspondent's trouble may be caused by insufficient or ineffective checking and throating to sills and sashes; and by absence of proper checking and flashing, which must be built in as work proceeds between lintels and heads of frames. It is possible that wall ties were not cleared of mortar droppings as work proceeded, as these accumulations conduct dampness and show in patches on inner face. I have known also of cases where mortar was wasted and allowed to drop in the cavity to such an extent that it rose above the damp-proof course.

There are no easy remedies for these faults, after the building has been completed. If the exterior be treated with two coats waterproofed cement and sand, the trouble may be lessened.

WILLIAM H. DARK.

Dry Rot in Bungalow Floor.

[REPLY TO "BUNGALOW," DECEMBER 10.]

SIR,—Your correspondent cannot do better than study the pamphlet upon the subject of Dry Rot issued by the R.I.B.A., and to follow the advice there given. MEMBER.

Ineffective Sound Deadening.

[REPLY TO "QUIET," DECEMBER 10.]

SIR,—In a sound-resisting floor there should be as little through communication of structural members as possible. Pugging alone is only a half-measure, and satisfactory results are not likely to follow where the same joists serve for the ceiling laths and the floor boards. The ceiling joists should be separate and where the floor is required to be as thin as possible, they may be arranged between the floor joists and dropping down below the underside of the latter no more than an inch, or even slightly less. The pugging then interposes itself between two independent surfaces. THOROUGH.

Cost of Library Work.

SIR,—I should be obliged if you could give me figures at which public library buildings in the London area should be cubed, to arrive at a preliminary estimate of cost (*a*) without equipment, and (*b*) with equipment—the building to be stone-faced, five stories, and thoroughly up to date in all accessories. LIBRARY.

Tiles "Lifting" from Cement Bed.

SIR,—Can you give an explanation of the possible causes of floor tiles lifting from their cement bed, which in some cases takes place many years after they are laid? A case in which I am interested concerns a factory where the tiles are 6 in. by 6 in. red quarries laid on a 3 to 1 cement sand bed screeded over concrete. The area of the floor is approximately 40 ft. by 60 ft., and although the tiles were left in water for twenty-four hours before laying and every precaution was taken in laying, they have risen from the cement bed within twelve months. The materials used in all cases were of first-class quality. SURVEYOR.

THE BUILDING TRADE

L.C.C. (GENERAL POWERS) BILL, 1926

LAST summer the Institution of Civil Engineers, the Royal Institute of British Architects, the Surveyors' Institution, and the Institution of Structural Engineers petitioned against the London County Council (General Powers) Bill, 1926, during its passage through the House of Lords. Certain revisions to the original Bill were agreed to, and the relevant sections of the Act (which received the Royal Assent on August 4) will come into operation at the beginning of January next. Following is a brief résumé of what has taken place.

It should be noted that the words in brackets [ ] in Document (C) are those which were omitted in the final Bill, whereas those *in italics* are the portions which were added at the suggestion of the Joint Committee.

DOCUMENT (A).

LONDON COUNTY COUNCIL (GENERAL POWERS) BILL, 1926.

1. Under the provisions of the L.C.C. (General Powers) Act, 1909, the L.C.C. are empowered to make Regulations in respect of the construction of buildings wholly or partly of reinforced concrete, but it is stipulated that notice must be given to the following Institutions of any intention on the part of the L.C.C. to apply to the Ministry of Health for allowance of any such Regulations :—

The Institution of Civil Engineers,
The Royal Institute of British Architects,
The Surveyors' Institution,
The Institution of Structural Engineers.

2. Early last year certain proposals for the revision of the Regulations approved in 1915 were communicated by the L.C.C. to these Institutions, and a Joint Committee, consisting of the following members, was appointed to consider these proposals on behalf of the Institutions: W. C. Unwin, LL.D., F.R.S., Oscar Faber, O.B.E., D.Sc. (representing the Institution of Civil Engineers); H. D. Searles-Wood, W. Henry White* (representing the Royal Institute of British Architects); P. J. Waldram, Dendy Watney (representing the Surveyors' Institution); E. S. Andrews, B.Sc., H. J. Deane, B.E. (representing the Institution of Structural Engineers). As a result, suggestions in connection with the proposed revised Regulations were submitted to the L.C.C. in September last, and these, it is understood, are still receiving consideration. . . . . .

DOCUMENT (B).

Report on Action taken by the Reinforced Concrete Joint Committee in connection with the L.C.C. (General Powers) Bill, 1926. The Reinforced Concrete Joint Committee, having obtained the authority of the four Institutions, arranged for the lodgment of their petitions in the House of Lords against the L.C.C. (General Powers) Bill, 1926, and was heard by counsel and witnesses before a Standing Committee of that House. In the opinion of the Committee, the Bill was of much too wide a scope and would give the L.C.C. almost autocratic powers without appeal in all cases where a building is not only converted in such a manner as to require partial reconstruction, but even by mere change of user without any constructional work.

As a result of the hearing and following on consultations between members of the Committee and the technical officers of the London County Council, revisions to the original Bill were agreed to. The London County Council indicated their willingness to modify the Bill so as to remove the whole of the Committee's objections. Briefly, it may be stated that the amendments to the orginal Bill brought about the following changes :—

1. To limit the application of the Act to a case "which in the opinion of the District Surveyor affects or is likely to affect the stability of build ings or the safety of persons occupying or resorting to such buildings."

2. To secure the right of appeal to the Tribunal of Appeal in case of dissatisfaction with the refusal of the Council to modify or waive any requirements of any regulations made under this Section.

3. To extend to the Institutions represented on the Committee the right enjoyed by them in the 1909 Act, namely, to receive notification of an intention of the Council to apply to the Ministry of Health for allowance of new or amended Regulations.

4. To exclude from these provisions its application in the case of any erection, alteration, &c., of buildings in accordance with the provisions of the London Building Acts, 1894–1908, and to prevent any right or privilege vested in or enjoyed by any person under these Acts being prejudiced or taken away.

DOCUMENT (C).

LONDON COUNTY COUNCIL (GENERAL POWERS) BILL, 1926.

Regulations as to Reinforced Concrete Buildings.

Part II.—Amendments of London Building Acts.

5. (1) The provisions of Section 23 (Power to make regulations as to use of reinforced concrete) of the London County Council (General Powers) Act, 1909 (in this part of this Act referred to as "the Act of 1909") shall extend to enable the Council subject to the provisions of that section to make and enforce regulations with respect to the conversion of any building or part of a building constructed wholly or partly of reinforced concrete [so that such building or part of a building when converted would not be in conformity with the regulations applying to such construction].

(2) *Any regulations made under section 23 of the Act of 1909 as amended by this section which relate to the stability of a building or part of a building shall be so described in such regulations.*

(3) In order to facilitate the erection of any particular building or part of a building intended to be constructed wholly or partly of reinforced concrete or the conversion of any particular building or part of a building so constructed the Council may in relation to that building or part of a building modify or waive upon and subject to such terms and conditions as they think fit any of the requirements of the regulations made under section 23 of the Act of 1909 as amended by this section.

(4) *Any person dissatisfied with the refusal of the Council to modify or waive any of the requirements of any regulation made under section 23 of the Act of 1909 as amended by this section (other than a regulation described as specified in subsection (2) of this section) or with any term or condition which the Council may attach to any such modification or waiver may appeal to the Tribunal of Appeal as constituted under section 25 (Tribunal of Appeal, &c.) of the Act of 1909 and the provisions of that section shall apply with respect to any appeal under this section.*

(5) Any person failing to comply with any term or condition attached to any such modification or waiver as aforesaid shall be liable on summary conviction to a penalty not exceeding twenty pounds and to a further penalty not exceeding twenty pounds for each day on which the offence continues after conviction thereof.

(6) For the purposes of this section a building or part of a building shall be deemed to be converted not only when it is structurally altered, but also if and whenever any change *which in the opinion of the district surveyor affects or is likely to affect the safety of persons occupying or resorting to or the stability of such building or part of a building* is made in the purposes for which the building or part of a building is used.

(7) *The Council shall give to the Institution of Civil Engineers, the Institution of Structural Engineers, the Royal Institute of British Architects, and the Surveyors' Institution notice of their intention to apply to the Ministry of Health for allowance of any regulations made under section 23 of the Act of 1909 as amended by this section.*

(8) *The provisions of section 23 of the Act of 1909 as amended by this section and any regulations in force thereunder shall not apply in the case of the erection or alteration of or the making of an addition to or the doing of other work to in or upon any building in accordance with the provisions of the London Building Acts, 1894 to 1908, and nothing in section 23 of the Act of 1909 as amended by this section or any regulations in force thereunder shall take away or prejudice any powers, rights, privileges or exemptions vested in or enjoyed by any person under the London Building Acts, 1894 to 1908, or any of them.*

(9) *Nothing in any regulations made under section 23 of the Act of 1909 as amended by this section shall apply to any building which conforms with—*

(a) the provisions of the London Building Act, 1894; or

(b) the provisions of section 22 (Provisions with respect to buildings of iron and stee skeleton construction) of the Act of 1909, or those provisions as varied by any modification or waiver made or granted in pursuance of that section or of section 5 (Provisions with respect to buildings of iron and steel skeleton construction) of the London County Council (General Powers) Act, 1923.

(10) The provisions of this section and any regulations made thereunder and for the time being in force shall be deemed to form part of Part VI of the London Building Act, 1894.

(11) *The powers conferred by subsection (3) of this section shall not be exercisable before the first day of January one thousand nine hundred and twenty-seven or the date on which any regulations made under section 23 of the Act of 1909 as amended by this section first come into operation whichever of those dates shall be the earlier.*

As to Amendment, &c., of Regulations relating to Reinforced Concrete Buildings.

6. *Notwithstanding anything contained in section 24 (this Part of Act and Regulations to form part of Part VI of London Building Act, 1894) of the Act of 1909, or in subsection (10) of the section of this Act of which the marginal note is "Regulations as to reinforced concrete buildings," any regulations referred to in those sections or either of them shall be subject to the provisions of section 32 of the Interpretation Act, 1889.*

Amendment of Section 23 (5) of London County Council (General Powers) Act, 1909.

7. (1) So much of subsection (5) of section 23 of the Act of 1909 as requires the publication in the *London Gazette* of regulations made under that section shall cease to have effect.

(2) When any regulations made under [the said] section 23 *of the Act of* 1909 as [extended] *amended* by this part of this Act have been allowed and are open to public inspection and copies thereof can be obtained in accordance with the provisions of that section as so [extended] *amended* [notice thereof shall be published by the Council in the *London Gazette*] *the Council shall publish in the "London Gazette" notice of the making and allowance of such regulations with an intimation as to the place at which the regulations can be inspected and copies thereof can be obtained.*

Extension of time for operation of Section 26 of London County Council (General Powers) Act, 1921.

8. Section 26 (Increase of fees to district surveyors) of the London County Council (General Powers) Act, 1921, shall be read and have effect as if the thirty-first day of December one thousand nine hundred and twenty-seven were substituted in paragraph (A) of subsection (4) and in subsection (7) thereof for the thirty-first day of December one thousand nine hundred and twenty-six.

* On Mr. Daubney's decease last year Mr. W. H. White was appointed to the Committee.

LONDON MASTER BUILDERS' ASSOCIATION

ANNUAL DINNER.

THE annual dinner of this Association was held on Wednesday evening, December 8, at the Hotel Victoria, Northumberland-avenue, W.C.2, Mr. A. B. Falkner, F.I.O.B., President, in the chair. The company numbered about 320, including Sir Giles Gilbert Scott, R.A., Sir J. Walker Smith, Sir Walter Lawrence, Mr. A. G. White, Mr. H. J. Deane (President, Institution of Structural Engineers), Mr. F. M. May, Mr. G. M. Burt, Mr. H. T. Holloway, Mr. H. D. Searles Wood, Mr. A. H. Adamson, Mr. G. Topham Forrest (Supt. Architect, L.C.C.), Mr. H. P. Burke-Downing, Mr. G. W. Humphreys, C.B.E. (Chief Engineer, L.C.C.), Mr. A. J. Forsdike (President, I.O.B.), Mr. W. Scott (President, Associated Master Plumbers), Mr. T. P. Bennett, Mr. F. J. Gayer, Mr. R. L. Roberts, Mr. E. J. Brown, Mr. Roland B. Chessum (President, International Federation of Building and Public Works), Mr. Fred Thorne, Mr. G. H. Parker, Mr. P. C. Culver, Mr. J. M. Theobald, Mr. F. W. Loasby, Major A. Haskins, Major A. F. Vigor, Major Fred Thorne, and Mr. W. J. Rudderham, Secretary.

After the loyal toasts had been honoured,

Sir Giles Gilbert Scott, R.A., F.R.I.B.A., proposing the toast of "The London Master Builders' Association," said he was confident that the Association was doing everything in its power, not only to promote the best interests of its members, but everything towards good building in London. With regard to the President, it gave him (the speaker) much pleasure to pay tribute to him for the splendid way in which he carried out his building contracts. He had good reason for saying this, because his own house had been built by Mr. Falkner, with entirely satisfactory results.

The President said the year that was just closing had not been marked by any serious conflict in the building trade, but it had been very difficult, owing mainly to the shortage of skilled craftsmen, and to the comparatively small number of apprentices who had been trained through the Apprenticeship Scheme and through the ordinary channels. It was still vitally necessary for them as builders to do their utmost to get the necessary craftsmen into the industry, especially in the plastering craft, where the shortage was most acute. A new National Agreement had recently been entered into between their national organisation and the operatives. Unfortunately, however, some of the key trades were outside that agreement at the moment, but it was hoped that before long they would be inside. In this agreement provision had been made for a certain amount of local option, which gave them the opportunity of meeting the operatives in their area, and discussing any difficulties which existed first hand. The great industry to which they were proud to belong was very different from many other industries, in that its productions were permanent and had a great effect upon the life and character of the nation. They all desired to raise the industry to the position of dignity it ought to occupy, and to that end he would like to see everyone engaged therein co-operating for its good, unitedly facing its problems. The noble buildings that were being erected in the great cities to-day were not only a source of inspiration and pleasure to the present generation, but would be the admiration of future generations, in addition to being monuments of the genius and skill of to-day. However grand the conceptions of their great architects might be, it was necessary, if those conceptions were to be perfectly materialised, that everyone engaged in their consummation should enter into the spirit of the designs, and take a pride in putting their best into their work. Another important question to-day was that of output, and he hoped before long the operatives would recognise that the desire to diminish the cost of building by increased output was not from any selfish motive, but for the good of the industry, the benefits of which they mutually shared. High wages were good provided they were accompanied by a corresponding output, as they tended towards economy by reducing overhead costs. Now that the coal strike had ended, he hoped that a spirit of peace would prevail throughout the country, and that prosperity would ensue, in which all would participate.

Mr. A. H. Adamson, in proposing the toast of "Our Guests," said the Prime Minister had been appealing recently for courage and confidence and co-operation between employers and employees. At a gathering like the present, when so many of their guests represented the many activities of the building trade, he was sure they would take that appeal in its widest sense and use every effort to increase the efficiency of the building industry. On the efficiency of the industries of the country depended the prosperity which they were looking for. The building industry would never be truly prosperous until it had been freed of the housing subsidy. It was interesting to note that Mr. Neville Chamberlain, in moving the reduction of the subsidy in the House of Commons, expressed the view that the subsidy had increased the cost of housing and artificially revived the building industry. If the industry was to get back to normal conditions, it was imperative that they should all work together to increase its efficiency. To achieve this object the first thing they had to do was to eliminate everything that was wasteful. He wondered if their guests had any idea of the amount of money that was thrown away annually on account of the present inadequate and wasteful way of tendering. He estimated that the expenses incurred every year by members of the L.M.B.A. in this respect ran into several hundred thousand pounds. Mr. Alan Slater, in a recent address to the Architectural Association, made some remarks on this vital question, and no doubt more would be heard of the subject at a future date. The tendency at the present time was for combination in business. There had been many illustrations of this in recent years, such as the combination of the banks and railways, and the formation of the chemical and the cement combines. The builders so far had been content with remembering that friendship was the cement that truly combined mankind, and in that spirit of friendship the London Master Builders welcomed their guests,

In response Mr. H. P. Burke-Downing, F.S.A., said in earlier ages the architect or master builder was more nearly identified with the man whom they now designated the "builder." The vastly increased complexity of the conditions of life and work in modern times had brought about a severance of the parts, but the separation had been made only for the greater efficiency of both in their respective functions in carrying out the one common purpose of producing the most perfect work. Architects and builders were both engaged upon a common task, and it followed that, if this was to be well performed, there must be the closest co-operation and understanding between them both. There was still an ideal side to modern building, as in the work of mediæval builders, and it was not the architect only who was interested in seeing his design take shape while the builder was left to dreary contemplation of the financial results. The builder not only could take, but had a right to take, pride in the execution of architectural conceptions. In good work he was sure that this was always the case. Architects knew very well the extent to which they were dependent upon their allies, the builders, for interpreting and carrying out their (the architects') ideas, and were grateful for their enlightened co-operation. At the same time they both needed the same intelligent help from the craftsmen whom the builder brought together. And if they were to have that, the craftsmen must be encouraged to realise that the particular piece of work on which they might be engaged did not stand by itself, but was part of a whole. They desired the men of each trade and craft to realise the relation of the parts to the whole, in order that there might be harmony between the whole and every part, and the beauty of design be accompanied by corresponding beauty in the workmanship in every detail. He thought there was great value in the architect getting as much as possible in direct touch with the workmen who were engaged on the actual manual operations. He tried to do that himself, but often found that the bricklayer and mason knew little or nothing about the general design of the building upon which he was working, thereby losing much of the æsthetic delight which they might experience. He would like to commend a suggestion that the President of the Architectural Association recently made—that the interest of the workmen should be stimulated by a spare set of drawings being placed at their disposal on the work, so that the bricklayer, the mason and the carpenter might have an opportunity of seeing towards what they were working.

Mr. J. M. Theobald, F.S.I., also responded.

NEW BUILDINGS IN LONDON

Bermondsey.—WAREHOUSE.—The first section of a steel-framed warehouse with 5-ton electric cranes is nearing completion, and work will shortly be commenced upon two additional blocks at Penrhyn Wharf, Bermondsey. Messrs. Williams & Cox, FF.R.I.B.A., 34, Henrietta-street, W.C., are the architects, and Messrs. Young & Co., 6, Queen Anne's Gate, Westminster, S.W.1, are responsible for the constructional steelwork and filler joist flooring.

East Ham.—TENEMENTS.—The East Ham Borough Council are inviting tenders for the erection of 64 tenements on a site in High-street South. Plans by the Borough Engineer.

Landor-road.—HOME.—A nurses' home is to be erected at the South Western Fever Hospital, Landor-road, Stockwell, S.W.9, for the Metropolitan Asylums Board. Mr. T. Cooper is the engineer.

Long Reach.—RECONSTRUCTION.—The Metropolitan Asylums Board have recommended the reconstruction of the Long Reach Hospital, at a cost of £75,270, subject to the Ministry of Health approval. Plans by Chief Engineer.

Orange-street.—BUILDINGS.—At a cost of £45,000, Messrs. Walden & Co., Ltd., of Swallowfield, Berkshire, have secured the contract for the erection of new buildings in Orange-street, Charing Cross-road, W.C.2. The scheme is for the Westminster City Council.

Piccadilly.—FLATS.—Details have been made public regarding the formation of a company to erect a large block of shops and flats in Piccadilly, at the corner of Stratton-street, under the name of Stratton House. The new company, which has been formed with a nominal capital of £210,000, will acquire the site of No. 1, Stratton-street for the erection of a large block of buildings, comprising shops and flats. The subscribers to the new company are Messrs. Samuel, Henry, Ernest C., and Roland E. Holloway (of Messrs. Holloway Brothers).

Peckham.—BUILDINGS.—The London County Council are about to erect new service buildings and conveniences at Eltham Park North and a dressing pavilion at the bowling green at Peckham Rye Park.

Putney.—HOUSES.—The Wandsworth Borough Council has approved plans submitted by the London County Council for the erection of 420 houses on the County Council site at Roehampton estate, Putney, S.W.

St. Martin's-le-Grand.—BRIDGES.—Messrs. Gunton & Gunton, architects, Finsbury House, Blomfield-street, E.C., have made a successful application to the City Corporation for the erection of a gate, three escape stairs, and three bridges over open areas, in connection with the new buildings in Foster-lane and St. Martin's-le-Grand.

Wardour-street.—BUILDINGS.—With regard to the new buildings at the corner of Wardour-street and Old Compton-street, referred to in our last issue, the land in question is the surplus land of the Westminster City Council remaining over after the important widening at this corner had been effected. The new buildings are being erected for Messrs. J. Lyons from the designs of Mr. Delissa Joseph, F.R.I.B.A.

White Hart-street.—DWELLINGS.—The London County Council are to build five blocks of dwellings on the White Hart-street site, Kennington. Mr. G. Topham Forrest, F.R.I.B.A., is the architect.

RATES OF WAGES IN THE BUILDING TRADE

Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.

	Masons	Bricklayers.	Carpenters Joiners	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers
Aberdare	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Accrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Alfreton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Alnwick	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Altrincham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashford (Kent)	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Ashington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashton-under-Lyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Aylesbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Aylsham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Banbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Barnsley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barnstaple	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Barrow-in-Furness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Basingstoke	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bath	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bedford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Berwick	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bexhill	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Birkenhead	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Birmingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bishop Auckland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackburn	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bolton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bournemouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bradford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bradford-on-Avon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Braintree	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Brentwood	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bridgwater	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Bridlington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Brighton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bristol	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bromsgrove	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bromyard	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Bungay	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Burnley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burton-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Buxton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cambridge	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Canterbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cardiff	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Carlisle	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chatham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chelmsford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cheltenham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chesterfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chorley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cirencester	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/1
Clacton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cranbrook	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Crewe	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cromer	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Darlington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Deal	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Denbigh	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Derby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Devizes	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Dewsbury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Doncaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dorchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Dorking	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dovercourt	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Driffield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Droitwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Dudley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Durham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Eastbourne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
E. Glam. (Mon. Val)	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ely	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Exeter	1/7	1/7	1/7	1/7	1/7	1/7	1/6	1/2½
Exmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Fakenham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Felixstowe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Folkestone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Frome	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Glossop	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Godalming	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Goole	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Gosport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Grantham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Great Yarmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grimsby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Guildford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Halifax	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harpenden	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Harrogate	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hartlepools	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Hastings	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hatfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hednesford	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hereford	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Herne Bay	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hertford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hitchin	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hoddesdon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Holt	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Huddersfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hull	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hunstanton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Huntingdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Isle of Wight	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Ipswich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Keighley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
King's Lynn	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Lancaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leamington Spa	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2

	Masons	Bricklayers.	Carpenters Joiners	Plasterers	Slaters	Plumbers	Painters	Labourers
Leeds	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leicester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leighton Buzzard	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Lichfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Lincoln	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Littlehampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Liverpool	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Llandudno	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Llanelly	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
London:								
12 m. radius	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/4½
12–15 m. radius	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/4
Loughborough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Lowestoft	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Luton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Macclesfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Maidstone	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Malvern	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Manchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Mansfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Margate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Market Harb'rough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Matlock	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Melton Constable	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Melton Mowbray	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Merthyr Tydfil	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Middlesbrough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newark	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Newbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newcastle-on-Tyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newcastle-ur-Lyme	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
New Forest	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Newmarket	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Newport, Mon.	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Norwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nottingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Nuneaton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oldham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oxford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Paignton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Peterborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Plymouth	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/3½
Pontypridd	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Portsmouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Preston	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ramsgate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Reading	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Redcar	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Redditch	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Reigate	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Retford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ripon	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Rochdale	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Rochester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Rugby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Saffron Walden	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
St. Albans	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
St. Helens	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Sawbridgeworth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Saxmundham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Scarborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Sevenoaks	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sheffield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Shrewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sittingbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southend-on-Sea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
South Shields	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stevenage	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stockport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockton-on-Tees	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stoke-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stourbridge	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stourport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stowmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stratford-on-Avon	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stroud	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5	1/1½
Sunderland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swaffham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Swansea	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swindon	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Tamworth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Taunton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Thetford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Torquay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Totnes	1/5	1/5	1/5	1/5	1/5	1/5	1/4½	1/1
Trowbridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Tunbridge Wells	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Uttoxeter	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wakefield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Walsall	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Wallsend	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Warminster	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Warrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Warwick	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wells (Norfolk)	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Welwyn Gar. City	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
West Bromwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Weston-sup.-Mare	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Weymouth	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/1
Whitby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wigan	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Winchester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Windsor	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wisbech	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wolverhampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Woodbridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Worcester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Worksop	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Worthing	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Wrexham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Wroxham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wymondham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
York	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½

(For rates of wages in the Building Trade in Scotland, see page 1015.)

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

DECEMBER 20.—**Buckley.**—HOUSES.—Thirty-two houses and work incidental thereto, for the U.D.C. R. L. Roberts, architect, Earl-road, Mold. Deposit £2 2s.

DECEMBER 20.—**Carlisle.**—STATION.—Transformer station at Raffles housing estate, for the T.C. P. Dalton, A.R.I.B.A., 18, Fisher-street.

DECEMBER 20.—**Caterham.**—ALTERATIONS.—To the Pavilion, Queen's Park, for the U.D.C. Surveyor.

DECEMBER 20.—**Cheltenham.**—HOUSES.—Twenty-two non-parlour type houses on the east side of Stanhope-street, for the T.C. T. Malvern, L.R.I.B.A., 21, Winchcomb-street. Deposit £2 2s.

DECEMBER 20.—**Dublin.**—PAINTING.—Painting work at Tara-street baths, for the C.B. J. J. Murphy, Town Clerk.

DECEMBER 20.—**Halifax.**—ADDITIONS.—Renovations and additions to Upper Rookes Hall, Norwood Green. G. R. Oddy, Lic.R.I.B.A., architect and surveyor, Ward's End Chambers, Halifax.

DECEMBER 20.—**Hull.**—ADDITIONS.—Alterations and additions to the Grammar School, Leicester-street, for the Corporation D. Harvey, City Architect. Deposit £2 2s

DECEMBER 20.—**Loanhead.**—LIGHTING.—Installation of electric lighting to four blocks each of four houses in Kennington-avenue, for the T.C. G. B. Deas, architect, Central Chambers, Kirkcaldy.

DECEMBER 20.—**Manchester.**—RESLATING.—Reslating the patients' dining hall at Baguley Sanatorium, for the T.C. City Architect, 1, Mount-street.

✱DECEMBER 20.—**Peckham Rye Park.**—BUILDINGS.—Erection of service buildings and conveniences at Eltham Park North and a dressing pavilion at the bowling green at Peckham Rye Park, for the L.C.C. Chief Officer, Parks Department, County Hall, S.E. 1 (Room 393 F).

DECEMBER 20.—**Preston.**—HOUSES.—144 houses on the Callons House estate, Fishwick, for the Corporation. W. Platt, Borough Engineer and Surveyor. Deposit £2.

DECEMBER 20. — **Rotherham.** — HOUSES. — Fifty houses in the parish of Whiston, for the R.D.C. J. Totty, architect, Moorgate-street. Deposit £2 2s.

DECEMBER 21.—**Bampton.**—HOUSES.—Thirty-four houses, and for laying, &c., the necessary sewers and water mains and constructing roads, &c., on and from the sites, for the U.D.C. D. J. Dean, surveyor.

DECEMBER 21.—**Barking.**—WATER FILTRATION, HEATING PLANT, AND BUILDING.—Plant and building in connection with the installation and erection at the Public Baths, East-street, Barking, for the U.D.C.:—(*a*) water filtration and aeration plant; (*b*) heating apparatus for baths, concert hall, and slipper bath water; (*c*) building to house above plant. R. A. Lay, Assoc.M.Inst.C.E., Engineer and Surveyor to the Council, Public Offices, East-street, Barking.

DECEMBER 21.—**Cardiff.**—HOUSES.—Seventy-eight houses at Ely, for the T.C. Architect. Deposit £2 2s.

DECEMBER 21.—**Cardiff.**—LIBRARY.—Branch library at Gabalfa, in St. Athans-road, for the T.C. S. Williams, Lic.R.I.B.A., Wharton-street. Deposit £2 2s.

DECEMBER 21.—**Colwyn Bay.**—WALL.—Erection of approximately 100 yards of sea wall, for the U.D.C. W. J. Dunning, engineer. Deposit £2 2s.

DECEMBER 21.—**Dinnington.**—INSTITUTE.—Erection of a mining and technical institute at Dinnington, for the West Riding E.C. The Education Department, County Hall, Wakefield.

DECEMBER 21.—**Dublin.**—LIGHTING.—Electric lighting of transit shed on Great Britain Quay, for the Port and Docks Board. E. H. Bailey, secretary, Port and Docks Office.

DECEMBER 21.—**Hebden Bridge.**—HOUSES.—Fourteen houses in three blocks at Eaves, for the U.D.C. H. L. Bottomley, Architect and Surveyor. Deposit £1.

DECEMBER 21.—**Lanark.**—HOUSING.—Erection of houses as follows:—Uddingston, 84 houses; Larkhall, 48 houses; Waterloo, 48 houses; Newarthill, 24 houses; London-road, Mount Vernon, 10 houses, for the C.C. P. C. Smith, Housing and Town-Planning Department, District Offices, Hamilton.

DECEMBER 21. — **Maidstone.** — HOUSES. — Erection of 147 houses on the Mangravet Wood site, Sutton-road, Maidstone, for the Corporation. T. F. Bunting, Borough Surveyor, Fairmeadow, Maidstone.

DECEMBER 21.—**Nuneaton.**—HOUSES.—Thirty-six houses in Short-street and Hill-street, Stockingford, for the T.C. H. N. Jepson, A.R.I.B.A., Queen's Buildings. Deposit £2 2s.

DECEMBER 21.—**Scunthorpe and Frodingham.**—HOUSES.—Thirty houses in pairs on the Crosby housing estate, Scunthorpe, for the U.D.C. W. Farrar, Engineer and Surveyor, Council Offices, Scunthorpe. Deposit £2.

DECEMBER 21. — **Torquay.** — TELEPHONE EXCHANGE.—Erection of, at St. Mary Church, Torquay, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

✱JANUARY 22.—**Bedford.**—FLATS.—Erection and completion of eight parlour-type houses and sixteen non-parlour type flats in Elstow-road, Kennedy-road, and Miller-road, for the Borough Council. Borough Engineer and Surveyor, Borough Surveyor's Office, Newnham House, Horne-lane, Bedford. Deposit £2 2s.

DECEMBER 22.—**Hyde.**—HOUSES.—Sixty-four houses on the Bennett-street site, for the T.C. Borough Surveyor. Deposit £2 2s.

✱DECEMBER 22. — **Liverpool.** — HOUSES. — The Housing Committee are prepared to receive offers from contractors to build special type non-parlour houses on the Norris Green and other housing estates. Contracts will be let in lots of 50 to 500 houses, and may be either of brick or approved concrete construction. Housing Office, Municipal Buildings, Dale-street, Liverpool. Deposit £1 1s.

DECEMBER 22.—**Rathdown.**—REPAIRS.—Repairs to the roofs, &c., of St. Columbcille's Hospital, Loughlinstown, for the B.G. P. H. McCarthy, B.E., 26, Lower Leeson-street, Dublin.

DECEMBER 22.—**Staines.**—HOSPITAL EXTENSIONS.—Erection of an extension to the Hospital, Kingston-road, Staines, consisting of private wards, out-patients' ward and general ward, and certain administrative offices, for the Staines Cottage Hospital Committee. E. J. Barrett, Town Hall, Staines. Deposit £2 2s.

DECEMBER 23.—**Berryden.**—DAIRY.—Construction of a dairy to be built at Berryden, Aberdeen, for the Northern Co-operative Society, Ltd. Tawse & Allan, architects, 10, Bon-Accord-square, Aberdeen.

DECEMBER 23.—**Glasgow.**—HOUSES.—Erection of 156 houses, comprising 26 tenements, at Brand-street, for the T.C. J. Lindsay, Town Clerk, City Chambers.

DECEMBER 23.—**Oxford.**—DWELLINGS.—Five pairs of dwellings for police, for the T.C. Estate Surveyor.

DECEMBER 24.—**Hastings.**—LIGHTING.—Electric lighting and heating installation at the Town Hall, Hastings, involving complete rewiring, for the Corporation. R. F. Ferguson, Borough Electrical Engineer, 20, South-terrace.

DECEMBER 27.—**Chelmsford.**—HOUSES.—Fourteen houses at Ingatestone, for the R.D.C. J. Dewhirst, engineer and surveyor, Council Offices, Waterloo-lane.

DECEMBER 27. — **London.** — ALTERATIONS.—Carrying out of certain alterations at the school in providing new bathrooms, together with new hot-water installations at the North Surrey District School, Anerley, S.E.20, for the Managers. The Clerk, 2, Staple Inn, London, W.C.1, by sending a stamped (2d.) addressed foolscap envelope or wrapper.

DECEMBER 27.—**Reigate.**—DECORATION WORK.—External and internal decoration works at the Municipal Buildings and Fire Station, Reigate, for the B.C. Borough Surveyor, Municipal Buildings, Reigate.

DECEMBER 27.—**Turriff.**—GARAGE.—Granary, garage, &c., in High-street, for Mr. G. Hutcheon. Jenkins & Marr, architects, 16, Bridge-street, Aberdeen.

DECEMBER 28. — **Barnet.** — HOUSES. — Erection and drainage, &c., of 15 houses (11 parlour and 4 non-parlour), on the Bell's Hill Nursery estate, for the Barnet U.D.C. The Surveyor, Council Offices, Wood-street, Barnet, Herts. Deposit £2 2s.

DECEMBER 28.—**Canterbury.**—HOUSES.—Ninety-eight non-parlour, three bedroom, semi-detached houses at Thanington, for the T.C. P. H. Warwick, City Surveyor and Engineer. Deposit £2 2s.

DECEMBER 28.—**Uxbridge.**—REPAIRS.—Alterations and repairs to Southfield, St. Andrews, for the U.D.C. W. L. Eves, F.R.I.B.A., 54, High-street.

✱DECEMBER 29.—**East Ham.**—TENEMENT HOUSES.—Erection of 26 double-tenement houses and 12 single tenement houses on the central site, High-street South, East Ham, for the Borough Council. Borough Engineer, Town Hall, East Ham. Deposit £2.

✱DECEMBER 29.—**Evesham.**—SANITARY CONVENIENCE.—Erection of, for men, with necessary fittings, adjoining Evesham Town Hall, for the Town Council. J. Abbott, Borough Surveyor, Municipal Offices, Evesham. Deposit £2 2s.

DECEMBER 29.—**Leeds.**—HOUSES.—Seventy-two houses on the Harehills-lane housing estate, for the T.C. W. T. Lancashire, City Engineer.

✱DECEMBER 29.—**London.**—BUILDING ALTERATIONS.—(1) New bathrooms to Sick Staff Wards "A" and "B," at the South Western Hospital, Landor-road, Stockwell, S.W. 9; (2) alterations to form isolation accommodation at the Grove Hospital, Tooting-grove, S.W. 17, for the Metropolitan Asylums Board. Office of the Board, Victoria-embankment, E.C. 4. Deposit £1 in respect of each work.

✱DECEMBER 29.—**London.**—DISINFECTOR BUILDING.—Erection of new disinfector building, Goldie Leigh Homes, Abbey Wood, S.E., for the Metropolitan Asylums Board. Office of the Board, Victoria-embankment, E.C. 4. Deposit £1.

✱DECEMBER 29.—**London.**—HOME.—Erection of new sisters' home at the South-Western Fever Hospital, Landor-road, Stockwell, S.W. 9, for the Metropolitan Asylums Board. Office of the Board, Victoria-embankment, E.C. 4. Deposit £1.

DECEMBER 29.—**Lowestoft.**—REPAIRS.—Repairs to roofs, drainage, &c., at Blenheim and Apsley Houses, Lowestoft, for H.M.O.W. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

DECEMBER 29. — **Mynyddislwyn.** — HOUSES. — 114 houses with sewers, and road work in connection with the above houses, on the Penllwyn site, for the U.D.C. A. F. Webb & W. A. Griffiths, LL.R.I.B.A., Tredegar Chambers, Blackwood, Mon. Deposit £3 3s.

DECEMBER 29.—**Plymouth.**—FLATS.—Block of buildings, containing 15 flats in all, at Battery-street, Stonehouse, for the T.C. Borough Surveyor. Deposit £2 2s.

DECEMBER 29.—**Stafford.**—HOUSES.—Erection of 18 houses of the parlour type on the Tithe Barn housing estate, for the Corporation. W. Piant, A.M.I.C.E., Borough Engineer, Borough Hall, Stafford. Deposit £1 1s.

DECEMBER 30.—**Liverpool.**—CONVENIENCE.—New convenience in Islington-square, for the T.C. City Engineer. Deposit £2 2s.

DECEMBER 30. — **Waterford.** — HOUSES. — Thirty houses at Waterford, for the Irish Sailors' and Soldiers' Land Trust. R. E. Beckerson, Chief Clerk, Irish Sailors' and Soldiers' Land Trust, 30, Lower Fitzwilliam-street, Dublin. Deposit £5 5s.

✱DECEMBER 31.—**Birkenhead.**—NEW ART GALLERY.—Erection of, on land fronting Balls-road, Birkenhead, for the Corporation. Town Clerk, Town Hall, Birkenhead. Deposit £3 3s.

✱DECEMBER 31.—**France.**—CEMETERIES.—Construction of approximately 11 cemeteries in France, for the Imperial War Graves Commission. The Secretary, Works Department, Imperial War Graves Commission, 82, Baker-street, W.1, marked Contract 1926, "B."

DECEMBER 31. — **Kilmaine.** — SCHOOL. — National school at Kilmaine, Co. Mayo, for the Committee of Public Works. J. J. Healy, secretary, Office of Public Works, Baile Atha Cliath, Dublin. Deposit £1.

DECEMBER 31.—**Longford.**—RENOVATION.—Of the surgeon's residence at the County Hospital, Longford, for the Longford C.C. County Surveyor's Office, Courthouse, Longford.

DECEMBER 31.—**Meltham.**—WIRING.—Wiring, fittings, &c., required in the installation of the electric light in the Parish Church, for the Church Council. W. R. Carter, secretary, Church Council, Birchfield.

✱DECEMBER 31.—**Stockton-on-Tees.**—HOUSES.—Thirty semi-detached houses, type B3, on the Blue Hall estate, Norton, for the T.C. Borough Engineer, Victoria Buildings, Stockton-on-Tees.

DECEMBER 31.—**Wheatley, Oxon.** — HOUSES.—Erection of 25 pairs of semi-detached non-parlour type houses ("A 1" and "B 1") at new Oxford-London-road site, for the Wheatley U.D.C. H. B. Barnsley, Council's Architect, Knightsbridge Farmhouse, Shirburn, Watlington, Oxon. Deposit £3 3s.

JANUARY 1, 1927.—**Burley-in-Wharfedale.**—HOUSES.—Eighteen non-parlour and two parlour-type houses in Prospect-road, for the U.D.C. E. J. Wright, surveyor, Deposit £2 2s.

JANUARY 1.—**Cardiff.**—EXTENSION.—Extension of Block 9 and re-erection of Block 11 at the Ely Lodge Institution, for the B.G. Willmott & Smith, architects, 4, Park-place. Deposit £2 2s.

✱JANUARY 3, — **Kennington.** — DWELLINGS. — Erection of five blocks of dwellings on a site situate at White Hart-street, Kennington, for the L.C.C. Architect to the Council, The County Hall (Room No. 3), Westminster Bridge, S.E.1, after payment to the Cashier of the Council of a deposit of £2.

✱JANUARY 3.—**Plymouth.**—HOUSES.—Erection of 212 at Higher Mount Gould Housing estate, for the County Borough Council. Corporation Housing Dept., Sun Buildings, Plymouth. Deposit £2 2s.

✱JANUARY 3.—**Sheffield.**—REPAIRS AND MATERIALS.—Tenders required for a Term Contract, from January 17, 1927, for the Sheffield, Hillsborough Barracks, and within a radius of 3 miles, War Department Contract. Engineer Office, by letter addressed to the Commanding Royal Engineer, Royal Engineer's Office, 13, Wenlock-terrace, York.

JANUARY 4.—**Barking.**—EXTENSIONS.—Of the existing jetty and pump house, and construction of barge berth, outlet culverts, outfall and relative works at Barking Power Station, for the London Electric Supply Co. Sir Alexander Gibb & Partners, Queen Anne's Lodge, London, S.W.1. Deposit £5 5s.

JANUARY 4. — **Wallsend, Northumberland.** — TELEPHONE EXCHANGE.—Erection of a telephone exchange at Wallsend, for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

JANUARY 5.—**Lanchester.**—BUNGALOWS.—At Mildonsley, as follows: 20 bungalows, 14 type C and 6 type 2; and alternatively for 50 bungalows, 26 type C and 24 type 2, for the R.D.C. Architect.

JANUARY 5. — **Middleton.** — EMPLOYMENT EXCHANGE.—Erection of, at Middleton, for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

✱JANUARY 6.—**Newton Heath.**—EMPLOYMENT EXCHANGE.—Erection of men's employment exchange at Newton Heath, for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

JANUARY 6. — **Stafford.** — EXTENSIONS.—Extensions to King Edward VI School, Stafford, for the Staffordshire E.C. F. A. Hughes, Director of Education, County Education Offices, Stafford.

JANUARY 7.—**Manchester.**—ALTERATIONS.—To Child Welfare Centre, Rosamond-street West, for the T.C. City Architect, 1, Mount-street.

JANUARY 7.—**Weymouth and Melcombe Regis.**—HOUSES.—Ninety-four houses on the Westham housing estate, for the T.C. P. Smallman, Town Clerk. Deposit £2 2s.

JANUARY 7.—**Witham.**—HOUSES.—Five pairs of semi-detached houses on the Cock's Farm site, for the U.D.C. D. Jenkinson, surveyor, Collingwood-road.

✱JANUARY 8.—**Southampton.**—ALTERATIONS AND EXTENSIONS.—Erection of a dining hall and kitchen block, alterations and extensions to existing buildings and other work, at Lankhills and "The Beeches" special school, Winchester. A. L. Roberts, County Architect, The Castle, Winchester on and after Friday, December 17, 1926, between the hours of 9 a.m. and 4 p.m. (Saturdays, 9 a.m. and 12 noon), excepting December 24 to 27 (inclusive). Deposit £2 2s., by cheque, payable to the Hants County Council and crossed "Lloyd's Bank, Ltd., Winchester."

JANUARY 10.—**Cambridge.**—ELEMENTARY SCHOOLS.—Construction of two new Elementary Schools: (1) Brunswick School, Newmarket-road; (2) open-air School, Milton-road, for the Borough E.C. Borough Engineer and Surveyor's Office, Guildhall, Cambridge. Deposit £3 3s. for each set of quantities.

JANUARY 11. — **London.** — COWSHEDS. — Erection of cowsheds at Chase Farm, The Redgeway, Enfield, for the Guardians of the Edmonton Union. G. A. Lewis, Acting Clerk to the Guardians, 77, Bridport-road, Edmonton, N.18.

*JANUARY 11.—**Stanningley, Leeds.**—EMPLOYMENT EXCHANGE.—Erection of at Stanningley, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

JANUARY 11.—**Yorks.**—HOUSES.—Tenders for all trades invited for the erection of the second section of 86 houses on the Ackworth-road housing site, Purston, for the Featherstone U.D.C. Samuel Chesney, A.R.I.B.A., Council Offices Featherstone, Yorks.

*JANUARY 12.—**Bordesley Green, Birmingham.**—POSTMEN'S OFFICE.—Erection of at Bordesley Green, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

JANUARY 13.—**West Stanley.**—BUILDINGS.—New Court buildings adjoining the Police Station at West Stanley, for the Durham C.C. W. J. Merrett, County Surveyor, 48, Old Elvet, Durham.

*JANUARY 18.—**Bridlington.**—HEAD POST OFFICE.—Erection of Post Office, &c., at Bridlington, for the Commissioners of His Majesty's Office of Works Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

*JANUARY 26.—**Hemel Hempsted.** — HOUSES.—Erection of 10, in two blocks of four, and one pair, in Highfield-lane, Hemel Hempsted, for the Corporation. A. Murray-Smith, A.M.Inst.C.E., Borough Surveyor Market-square, Hemel Hempsted.

JANUARY 29.—**Crediton.**—HOUSES.—Sixteen houses at Newton St. Cyres, near Crediton, for the R.D.C. R. O. Harding, architect and surveyor, 34, Prospect Park, Exeter.

FEBRUARY 9. — **Stretford.** — SCHOOL. — Secondary school for boys at Stretford, near Manchester, for the Lancashire E.C. County Architect, 16, Ribblesdale-place, Preston. Deposit £2.

*NO DATE.—**Hove.**—STRUCTURAL ALTERATIONS.—To the premises, Nos. 72 & 74, Batchington-road, Hove, for Messrs. Timothy White Co., Ltd. Construction Department, 3, Chandos-street, Portsmouth.

NO DATE.—**Hythe.**—HOUSES.—Sixty-eight parlour-type houses, paths and sewers on the Dymchurch-road site, for the T.C. M. J. Harvey, Borough Surveyor. Deposit £3 3s.

NO DATE.—**Silchester.**—CHURCH.—New Primitive Methodist Church, Silchester. H. Kelsall Armitage, architect, 130, Haverstock Hill, Belsize Park, N.W.3.

MATERIALS, etc.

DECEMBER 20.—**Calder.**—PIPES.—Ninety tons of 4 in. dry sand cast-iron pipes and special castings, for the Calder D.C. of the Midlothian C.C. J. & A. Leslie & Reid, C.E., 72A, George-street, Edinburgh. Deposit £1.

DECEMBER 20.—**Chorley.**—PIPES.—Seventy tons, approximately, of 3 and 4 in. British Standard cast-iron water pipes, class B, for the R.D.C. W. Cotterill, surveyor.

DECEMBER 20.—**Exmouth.**—MAINS.—150 tons of 10 in. cast-iron water mains, for the U.D.C. S. Hutton, water engineer.

DECEMBER 20.—**Lasswade.**—PIPES.—Thirty-five tons of 2, 3, 6 and 9 in. dry sand cast-iron pipes and special castings, for the D.C. of the Midlothian C.C. J. & A. Leslie & Reid, engineers, 72A, George-street, Edinburgh. Deposit £1.

DECEMBER 21.—**Dewsbury.**—PIPING.—Piping and fittings, for the B.G. E. T. Tunnicliffe, clerk, Union Offices, Wellington-street.

DECEMBER 21.—**East Suffolk.**—MATERIALS.—Tarmacadam, granite, slag, flint, &c., local materials, i.e., gravel, fine shingle and sand suitable for tarring operations, bitumen, refined tar or other compounds for surface treatment of roads, oils, grease, waste, &c., for the C.C. W. Jervis, County Surveyor, County Hall, Ipswich.

DECEMBER 21.—**Leatherhead.**—PIPES.—330 yds. of 3 ft. 9 in. second quality stoneware pipes, and eight 1 ft. 6 in. by 3 ft. 6 in. pot gullies, for the U.D.C. S. R. Drake, surveyor.

DECEMBER 28.—**Berkshire.**—MATERIALS. — Broken road material, gravel and sand, for the C.C. Lt.-Col. J. F. Hawkins, M.Inst.C.E., County Surveyor, Shire Hall, Reading.

DECEMBER 29.—**Rhondda.** — MATERIALS. — Bricks, stoneware pipes, iron castings, pavings, kerbs, channels and pitchings, artificial paving, Portland cement and hydraulic lime, and paints, oils, &c., limestone, and granite chippings, for the U.D.C. E. Taylor, engineer and surveyor, Council Offices, Pentre, Rhondda.

DECEMBER 31.—**West Riding.**—MATERIALS.—Granite and whinstone, tarred and untarred slag, tarred and untarred limestone, refined tar, bituminous compounds stoneware pipes, cast-iron gulley grates and frames, stone and concrete kerbings, edging, flags, and setts, for the C.C. West Riding Surveyor, County Hall, Wakefield.

JANUARY 3, 1927.—**Soke of Peterborough.**—MATERIALS.—Granite, slag, tarmacadam, tarred slag, tar-spraying and tar materials, for the C.C. H. Russell, County Surveyor, Cross-street, Peterborough.

JANUARY 3.—**Ventnor.**—MATERIALS.—For (1) 14,000 gallons of tar or other bituminous road surfacing material; and (2) 125 tons ¾ in. clean granite chippings, 175 tons ¾ in.-¼ in. clean granite chippings, for the U.D.C. Surveyor.

JANUARY 7.—**Derbyshire.**—MATERIALS.—Tarmacadam, granite and basalt, iron furnace slag, limestone, crushed gravel, other suitable gritting material, for the C.C. J. W. Horton, County Surveyor, County Offices, St. Mary's-gate, Derby.

JANUARY 10.—**Melbourne.**—STEEL PIPE-LINE.—For approximately 700 tons of 30 in. to 51 in. steel pipe-line with accessories, for the State Electricity Commissioners of Victoria. Department of Overseas Trade, 35, Old Queen-street, S.W.1.

JANUARY 19.—**Isle of Wight.**—MATERIALS.—Granite and granite chippings, bitumen and bitumen compounds, refined tar, surface dressing, approximately 800,000 yds. super., for the C.C. A. J. A. Harris, Highways Surveyor, County Hall, Newport, I.W.

NO DATE.—**King's Lynn.**—GRANITE.—1,000 tons ¾ in. and 500 tons 1½ in. granite chippings, for the T.C. J. C. Matthew, Borough Engineer.

ENGINEERING, IRON AND STEEL.

DECEMBER 20.—**Gosforth.** — SEWERAGE. — Laying about 5,200 lin. yards of 9 in., 12 in., 18 in. and 21 in. pipe sewers and cast-iron pumping main, with the necessary manholes, storm overflows and flushing chambers, for the U.D.C. Taylor & Wallin, engineers, 47, Pilgrim-street, Newcastle-on-Tyne. Deposit £5.

DECEMBER 20. — **Leicester.** — SEWAGE DISPOSAL WORKS.—New detritus tanks, screening chamber, bellmouths, spillway and weir, drains, sewers, rising mains and roads, sludge and supernatant water-pumping station, recorder houses, &c., and other works in connection at the Abbey Pumping Station, for the T.C. City Engineer. Deposit £5.

DECEMBER 20.—**Uffculme.**—RESERVOIR.—Construction of a small concrete reservoir, the laying and jointing of 4 in. and 2 in. mains, with necessary junctions, valves and hydrants, including excavators' and masons' work, for the Tiverton R.D.C. R. Ellis, surveyor, 4, Horsdon-terrace.

DECEMBER 21.—**Dover.**— BRIDGE. — Ferro-concrete bridge and incidental works at Common-lane, River, for the T.C. Wm. Boulton Smith, Borough Engineer. Deposit £1 1s.

DECEMBER 21.—**Horsham.**— SEWAGE. — Alterations at Warnham Sewage Works, consisting of new detritus chamber, septic tank, rainwater bed and repairs to existing works, for the R.D.C. W. R. Guilford, surveyor, 42, Albion-terrace. Deposit £1 1s.

DECEMBER 31.—**Borrowdale.**—BRIDGE.—Construction in reinforced concrete with local stone facing of a new bridge across the River Derwent, near Seatoller, in Borrowdale, for the Cumberland C.C. G. O. Lockwood, County Surveyor and Bridgemaster, The Courts, Carlisle. Deposit £2.

DECEMBER 31.—**Boston.**—CULVERTS.—Construction of 21 culverts and a sunken tunnel on the Bicker Eau and Donington Wykes drains, for the Black Sluice Commissioners. F. S. Robins, 6, Bridge-street.

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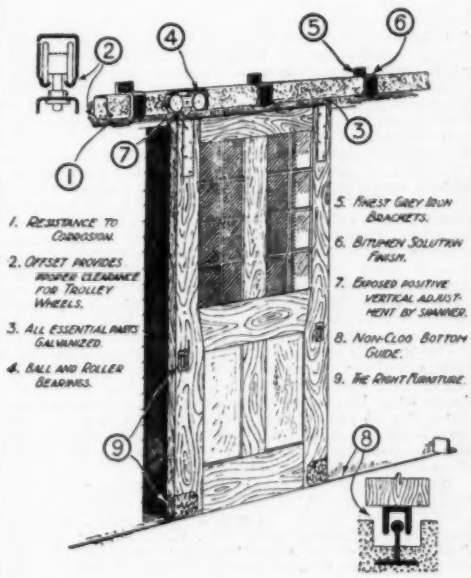
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DECEMBER 31.—**Middleton.**—PLANT FOR MODERN BATHS.—Preliminary tenders, specifications, &c., from mechanical engineering firms specialising in the manufacture and installation of plant necessary for modern public baths, such as purifiers, aerators, calorifiers, boilers, filter, laundry fittings, &c., for the Middleton T.C. Borough Architect, Town Hall, Middleton.

JANUARY 4, 1927.—**Epsom.**—DRAINAGE.—Construction of about 8 miles of 7 in. and 9 in. stoneware and cast-iron sewers with manholes and other appurtenances at Cobham and Stoke D'Abernon, and for the construction of a settlement tank, three percolating filters, two humus tanks, and other works at the Sewage Treatment Works at Street, Cobham, for the R.D.C. John Taylor & Sons, engineers, Caxton House, Westminster, S.W.1. Deposit £5.

JANUARY 5.—**Birmingham.**—SEWER, &c.—Deepening, inverting, and reconstruction of the Hockley Brook from near The Crescent, Handsworth, to Perrott-street, partly under buildings, railways, and embankments, and partly in open channel, and also for the construction of short lengths of brick and concrete and pipe sewers and other incidental works in Nineveh-road, Perrott-street, and Soho Pool Wharf, for the T.C. H. H. Humphries, City Engineer and Surveyor. Deposit £2.

JANUARY 10.—**Bristol.**—BUILDING.—Construction of two granaries: also additions to existing bands, at the Royal Edward Dock, Avonmouth, for the Port Authority. Thomas A. Peace, Engineer, Chief Engineer's Office, Avonmouth Docks. Deposit £5.

JANUARY 10.—**Market Harborough.**—BRIDGE.—Reinforced concrete road bridge over the Grand Junction Canal at Lubenham, for the R.D.C. F. C. Salmon, surveyor, Kibworth, Leicester.

JANUARY 12.—**Calcutta.**—BRIDGE.—Dismantling and reconstruction of the Chitpore Bridge over the Circular Canal, for the Improvement Trust. Chief Engineer, 5, Clive-street, Calcutta.

JANUARY 14.—**Atcham.**—BRIDGE.—Construction of a new ferro-concrete bridge over the River Severn and approach roads at Atcham, near Shrewsbury, for the Salop C.C. W. H. Butler, County Surveyor, County Buildings, Shrewsbury. Deposit £5.

JANUARY 18.—**Godstone.**—DRAINAGE.—Construction of about 940 yards of 9 in. diameter stoneware and cast-iron pipe sewers with the necessary manholes and other appurtenances, also for the construction of detritus settlement tanks, filter beds, humus tanks, sludge and humus beds and lines of pipes, and for making alterations to existing works at their sewage treatment works, for the R.D.C. John Taylor & Sons, engineers, Caxton House, Westminster, S.W.1. Deposit £5.

JANUARY 20. — **Lachmanghula.** — BRIDGE. — Cables and steelwork of a suspension bridge to be built at Lachmanghula, Dehra Dun district, for the United Provinces of Public Works Dept. H. V. S. Dillon, Executive Engineer, Meerut Provincial Division, India.

JANUARY 31. — **Egypt.** — BARRAGE. — Construction of a barrage and subsidiary works on the River Nile, near Nag Hammadi, for the Ministry of Public Works of the Egyptian Government. Goode, Fitzmaurice, Wilson & Mitchell, Consulting Engineers to the Egyptian Government, 9, Victoria-street, Westminster; or the Legation of the Egyptian Government, 7, Charles-street, Berkeley-square, W.1.

ROAD, SEWERAGE, AND WATER WORKS.

DECEMBER 20.—**Beddington and Wallington.**—IMPROVEMENT. — Street improvement in St. George's-road, for the U.D.C. S. F. R. Carter, Engineer and Surveyor of the Council, Council Offices, Wallington. Deposit £1 1s.

DECEMBER 20.—**East Barnet.**—ROAD.—For (*a*) construction of reinforced concrete foundation on west haunch of the road, together with incidental works, and (*b*) construction of a fence, approximately 500 yards, on the Great North-road, at Barnet Hill, for the U.D.C. H. York, engineer and surveyor, Deposit £1 1s.

DECEMBER 20.—**Sandwich.**—ROAD.—New road from the Deal to Sandwich main road to How Bridge—a length of about 187 yards—and for widening and improving Broad-lane from How Bridge to Primrose-lane—a length of about 1,800 yards—for the Eastry R.D.C. H. Barker, engineer, 80, Queen-street, Deal. Deposit £3 3s.

DECEMBER 21.—**Hambledon.**—MAIN.—Extension of about 361 yards run of water main at White-lane, St. Martha's, near Chilworth, for the R.D.C. P. G. Williams, Surveyor, Council Offices, Bramley, Surrey.

DECEMBER 21. — **Neath Higher.** — CEMETERY. — General lay-out of entrance roads, footpaths, erection of entrance gates, internal gates, unclimbable iron fencing, post and wire fencing, for enclosing the site, storm water, subsoil drainage, efficient filtration, manhole inspection chambers, gullies, excavations, levelling and general clearance of site for interments, for the P.C. T. Williams, clerk, "Hyfrydle," Glyn Neath. Deposit £2 2s.

DECEMBER 21.—**Port Talbot.**—IMPROVEMENT.—Improvement and resurfacing of classified roads in the district, for the T.C. Borough Surveyor. Deposit £1 1s.

DECEMBER 21.—**Uckfield.**—SEWAGE.—Improvements to the Crowborough sewage disposal works at Redgate Mill, for the R.D.C. T. Burdett, Sanitary Inspector. Deposit £1 1s.

DECEMBER 22.—**Birmingham.** — MAKING-UP. — Of Hobmoor-road, East Pits-road, and parts of Holder-road and Deakins-road, Yardley, for the T.C. Herbert H. Humphries, M.Inst.C.E., City Engineer and Surveyor. Deposit £2.

DECEMBER 22.—**Coventry.**—MAKING-UP.—Of Drake street and Welford-place, and the laying of certain surface water sewers, for the T.C. E. H. Ford, City Engineer and Surveyor. Deposit £3 3s.

DECEMBER 22.—**Wood Green.**—WIDENING.—Improvement and widening in Albert-road, for the U.D.C. H. Croxford, Engineer and Surveyor. Deposit £1 1s.

DECEMBER 29.—**Crewe.**—MAKING-UP.—Of Darlington, Bowen Cooke, and Frank Webb-avenues, for the T.C. E. G. Tumbrell, Borough Engineer and Surveyor Deposit £2 2s.

DECEMBER 29.—**Dublin.**—ROAD.—New road from Killester to Coolock, for the C.C. County Surveyor, Dublin County Council, 11, Parnell-square. Deposit £2 2s.

DECEMBER 30.—**Thirsk.**—PIPES, &C.—Providing, laying, and jointing of about 12,920 yards of steel spigot and socket tubes, with lead, wool, and yarn joints, together with the necessary special pipes, valves, hydrants, &c., in connection therewith, the provision of a pressure-reducing valve and meter, and the provision and fixing of pillar fountains, for the R.D.C. Fairbank & Son, engineers, Tudor House, Stonegate, York.

DECEMBER 31.—**Carshalton.**—DRAINAGE.—Carrying out certain works of house drainage (1) at 2 to 9, Alexandra-terrace, Stanley-road, Carshalton, and (2) at The Dell, Highfield-road, Carshalton, for the U.D.C. W. Willis Gale, surveyor.

DECEMBER 31.—**Nafferton.**—ROAD.—Construction of a new road at Nafferton, 632 yds. in length, or thereabouts, for the East Riding C.C. County Land Agent, County Hall, Beverley.

DECEMBER 31.—**Totnes.**—ROAD.—Widening of the Station-road, including the small bridge over the Leat, for the T.C. J. L. Davies, Borough Surveyor, 10, High-street. Deposit £2 2s.

JANUARY 1, 1927.—**High Wycombe.**—ROAD.—Works in connection with the formation of a new reinforced concrete road at High Wycombe. J. Carter Jonas & Sons, land agents and surveyors, 27, Market Hill, Cambridge.

JANUARY 1.—**York.**—SEWERS.—700 lineal yards of 9 in. sewers and surface water drains, on the Glen-road estate; also for the construction of 300 yards of roads, having reinforced concrete carriageways, for the T.C. F. W. Spurr, City Engineer. Deposit £2 2s.

JANUARY 3.—**Harrow-on-the-Hill.**—IMPROVEMENTS.—Making up of Courtfield-avenue and Crescent, Wilson-road and Gardens, Northwick Park-road, Butler-road (part of), for the U.D.C. J. Percy Bennetts, engineer and surveyor. Deposit £1.

JANUARY 3.—**Harrow-on-the-Hill.**—IMPROVEMENT.—Widening and reconstruction of Northolt-road, including the construction of a new concrete and bitumastic road, area about 12,400 sq. yards, for the U.D.C. J. P. Bennetts, engineer and surveyor. Deposit £1.

JANUARY 5.—**Lanchester.**—STREETS.—Construction of street works at Garden-terrace, Ebchester, for the R.D.C. Architect.

Competitions.

(See Competition News page 980.)

Public Appointments.

DECEMBER 20.—**Gravesend, Kent.**—CLERK OF WORKS.—Required by the Borough Council. H. H. Brown, Town Clerk, 4, Woodville-terrace, Gravesend.

DECEMBER 22.—**Walsall.**—Two fully competent Architectural Assistants required by the County Borough of Walsall. J. Taylor, M.Inst.C.E., Borough Engineer and Surveyor, Council House, Walsall, endorsed "Architectural Assistant."

*DECEMBER 24.—**Middleton, Lancs.**—ARCHITECTURAL ASSISTANT.—Required in the Borough Engineer and Surveyor's and Borough Architect's Department by the Town Council. J. P. Walmsley, Town Clerk, Town Hall, Middleton, Lancs.

Decrease in Price of Cement.

The surcharge of 10s. per ton which, two months ago, was added to the price of cement in consequence of the coal strike, has been removed as from Wednesday last. All cement is now priced as before the strike.

Ouse Drainage Scheme.

Sir Trustram Eve, at a meeting at Bedford of the Uplands Riparian Association of the Great Ouse—a body which has consistently opposed the Ouse Drainage legislation—has presented a report criticising the proposals of the Royal Commission which are to be incorporated in a Bill to be published. The Government, he declared, contemplated throwing over the principle that those who benefited from drainage works should pay for them—a principle which Parliament had been wise in sticking to for 300 years. What was proposed was a new plan, suggesting a community of interest in the whole of a watershed, whereby everybody in the watershed should pay towards the cost of the works at the mouth of the river. The speaker notified his intention of calling a representative meeting of owners and occupiers of lands in the Ouse watersheds to discuss the matter.

PROPOSED NEW BUILDINGS & OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B.E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board.

ALTRINCHAM.—The U.D.C. has instructed the surveyor to prepare lay-out plans for a further fifty houses, type "A," to be erected on the Oldfield Brow housing site.

AUDENSHAW.—The members of St. Stephen's Church and Sunday School are raising funds for the provision of a new institute.

BARDSEY.—The residents of Bardsey have decided on the erection of a Trustees' Hall, the building of which is estimated to cost £800.

BARNSLEY.—The T.C. has decided that a Bill should be promoted in Parliament to authorise the construction of another reservoir, to cost £362,000.

BARROW.—The R.D.C. has given authority for application to be made for a loan of £7,500 for the erection of ten houses in Woodhouse Eaves. Lay-out plans were ordered to be approved for twenty-eight houses at Barrow on sites bought from Lockwood & Ball.

BECONTREE.—The L.C.C. recommend the following: That the estimate of expenditure on capital account of £1,250,000, submitted by the Finance Committee in respect of the development of the Valence (No. 10) section of Becontree, to cover the cost of the erection of about 2,137 houses, including road and sewer work and all incidental expenses, be approved; and that the estimate of £450,000, submitted by the Finance Committee in respect of the purposes mentioned in the foregoing resolution, be approved.

BELMONT.—The M.A.B. recommend that, subject to the sanction of the M.H., the freehold portion of the Belmont Institution site consisting of about 9 acres shown in the plan, be sold to the Board of Management of the Sutton Hospital for the sum of £400 per acre.

BEXHILL.—The T.C. has approved the following plans: Boys' Brigade hall, in Graham-road, W. Dickinson, for the Trustees; house, Bridgen-road, for F. B Warren, submitted by Box & Co.; six houses, Little Danson estate, for T. H. Jones, submitted by A. Hargreaves; 115 houses, Woodlands estate, for H. A. Cooper, Ltd.; 10 houses, Edmund-road, for Barnes & Bridge, submitted by A Hargreaves; house, Albion-road, for H. J. Tearle, submitted by R. B. Butler.

BLACKBURN.—The T.C. passed plans: Two houses, Preston New-road, by B. Hatton & Sons; bungalow, Shorrock-lane, by G. H. Felton; two houses, Whalley Old-road, by Jno. Aspin & Sons; 12 houses, Park Lee-road, Sunny Bank, Ramsay-road, by Wm. A Cooper; 10 houses, Willis-street, by H. Southworth; 20 houses, Pleckgate, by J. Ashworth; bungalow, Whalley Old-road, by A. Whalley; 14 houses, Colenso-road, and intended road off Shear Brow, by Penny Bros.; two houses, Lammack-road, by G. R. Clayton; four houses, Revidge-road, by E. Mercer & Sons; house and shop, Whalley Old-road and Plane-street, by J. B. Loynds; 14 houses, Lammack-road, by Ginger & Hodgson; two houses and lay-out of adjoining land, Paignton-road, by Miss M. E. Scott and Mr. F. Briggs.

BLACKPOOL.—The C.B. has resolved that direct application be made to the M.H. for sanction to a loan for the erection of 16 houses in Mather-street.—A proposed tram shelter is to be erected opposite St. Stephen's-avenue, on the Fleetwood tram route.—The Borough Surveyor has submitted proposed lay-out of land in Bispham-road, adjacent to the new destructor works, for the erection of houses.—Regarding the proposal to construct, at the southerly end of the Promenade extension, a lake for boating purposes, the Borough Surveyor has been instructed to prepare a plan and estimate of cost of the proposal.—The Borough Surveyor has submitted a plan of a proposed house to be erected in Levens-grove, to which the Committee agreed, and further instructed him to prepare plans for submission to the Committee, to build up the various vacant sites on the housing estates.—Mr. R. D. Dennis, architect, Hoo Hill housing scheme, has submitted a letter with reference to the acquisition of an additional plot of land for housing purposes.—The following sanctions to the borrowing of moneys has been received: Sub-stations and equipment, £4,112; public elementary school in Abbey-road, £19,880.

BOLTON.—The T.C. has decided to apply for sanction of the M.H. to the borrowing of £33,500 to cover the purchase of two plots of land on the Crompton Fold estate with 64 houses to be erected thereon.—The Tonge Moor Wesleyans are raising £1,000 for proposed extensions to their Sunday schools.—The Bolton Arts Club have acquired premises in Knowsley-street for new headquarters, to which they propose to make alterations and extensions.

BOURNEMOUTH.—The T.C. passed plans: House, Southlea-avenue, F. Richards; house, Wheaton-road, C. E. Poole; house, Wheaton-road, F. C. White; house, Thistlebarrow-road, Mrs. G. Dolman; house, Thistlebarrow-road, Mrs. Berdsley; house, Dunkeld-road, A. Barnes; three garages, Wynyard-road, C. J. Shuttlewood; house, Coronation-avenue, Miss K. M. Joiner; two houses, De Lisle-road, A. Barnes; house, Eldon-road, Mrs. E. E. Blake; cottage, rear of tennis pavilion, Roslin-road, the West Hants Lawn Tennis Co. (Bournemouth), Ltd.; house and shop, Stroudenroad, G. J. Luckham & Son; house and garage, Stirling-road, C. H. Belbin; house and garage, with living rooms over, Glenfurness-avenue, G. Waddilove; house and garage, Thistlebarrow-road, J. F. Ellen; house, Fernside-road, Mr. S. Harris; house and garage, Fernside-road, F. W. Holloway; house and garage, Thistlebarrow-road, E. Wuytack; shop and house (corner), Castle-road, F. Richards; house and garage, Egerton-road, H. W. Seitz; lock-up garages, Maxwell-road, Somerly-road, and Truscott-avenue, W. Denham; house, Fernside-road, E. B. Field; two houses, Southlea-avenue, H. B. & E. Mudge; house, College-road, H. Solomon; house, Beckford-road, F. Watson.

BRADFORD.—The City Architect is instructed to prepare plans for the erection of a number of flats.

BROMLEY.—The T.C. has received the M.H. sanction to the borrowing by the T.C. of £41,151 for the erection of the Burnt Ash school.—The M.H. has forwarded formal sanction to the borrowing of £2,000 for the erection of a school clinic on land at Station-road, Bromley.—Plans approved: House in Minster-road, for J. H. Vincent; two houses in Farnaby-road, for G. L. Walton; new roads at Glanville-road and an extension of Godwin-road, for Vigers & Co.; 12 houses on the Bromley Park Garden Estate, for P. B. Dannatt; four semi-detached houses in Burnt Ash-lane, for H. Durbin; two semi-detached houses in Quernmore-road, for M. W. J. Harrington; five houses in Jackson's-road, for J. Rump.

BUXTON.—The T.C. passed plans: Buxton Palace Hotel Co., Ltd., bathrooms at the Palace Hotel; H. Appleton, house and garage, Green-lane.

CAISTER.—The R.D.C. are proposing to establish a Smallpox Hospital at Osgodby.

CAMBRIDGE.—The T.C. passed plans: Eighteen houses, St. Margaret's-square, for J. R. Bennett & Son; pair of semi-detached houses, Millington-road, for Mrs. C. G. Wood.

CASTLEFORD.—A new parish, St. Michael's, Castleford, with a population of 11,000, has been recently constituted in the diocese of Wakefield. A contract for £11,960 has been accepted for a church to be built on the site already given. The plans are by Sir Charles Nicholson.

CONISBOROUGH.—The U.D.C. recommends that the Council apply to the Ministry for sanction to borrow £16,000 for building by direct labour of 32 houses on the Daylands site.

DARLINGTON.—The T.C. has approved the following plans: F. Clark & Son, amended plan of two houses, Geneva-road East; J. E. Chilton, 56 houses, Leyburn-road; 24 houses, Garthlands-road; bungalow, Barmpton-lane, and two houses, The Stray.

DARTMOUTH.—The T.C. are to erect another 10 houses at Avery's Meadow.

DONCASTER.—In connection with the proposal of the T.C. to provide new swimming baths, the proposed site is at present occupied by the old Christ Church schools, at the junction of St. James-street and Catherine-street, and steps are being taken to acquire the necessary land.—The Council approved of the proposed extensions to the Oswin-avenue school, to provide additional accommodation for 500 children.

DUKINFIELD.—The T.C. has decided to acquire 12 acres of land in Clarendon Fields for the erection of 178 houses.

EAST HAM.—The C.B. passed plans: Lock-up garages, rear 65, Essex-road, for E. W. Waple; house, 57, Sandford-road, for J. W. Londen; house with garage, 220, Central Park-road, for F. Hamlett; 11 houses, 70–90, Pulleyns-avenue, for A. Huback; 19 houses, 88–104, and 134–152, Sandford-road, for S. H. Anstead; shops and offices, 534–540, High-street North, for W. J. Barker.

ECCLESHILL.—The Bradford Corporation propose to erect 882 houses upon the new housing estate and to invite tenders immediately for the first section, comprising 186 houses.

EPSOM.—The M.A.B. recommend that approval be given to the provision of new main entrance gates for the Downs Hospital for Children, at a cost estimated by the engineer-in-chief at £250.—The R.D.C. propose purchasing land opposite the housing site for the erection of further houses, for which a lay-out has been submitted.

FARNHAM.—The U.D.C. passed plans: House, Firgrove Hill, A. J. Stedman, for S. A. Baber; house, Three Stiles estate, Crondall-lane, A. J. Figg, for H. C. Spencer; house, Sherfield Bres., for H. J. Bicknell; six cottages, Little Green-lane, Shortheath, H. Purchase; house, Longley-road, W. Eldridge, for Miss C. Brooks; house, Watson Eldridge, for Mrs. F. Peters; house, Longdown-road, W. Eldridge, for E. J. Parratt; house, Crondall-lane, W. J. Wilkinson, for J. Gittens.

FELTHAM.—The U.D.C. have under consideration the erection of 200 houses.

FOLESHILL.—The C.C. has written to the R.D.C. of their intention to provide a new public elementary school at Copsewood.—The Plans Committee passed the following plans: Six houses, Whitmore Park-road, for W. T. Harding; two houses, Blackberry-lane, Wyken, for G. Kirby; house, Lythall's-lane, for Mr. Taylor; and house, Coventry-road, Exhall, for Mr. Bucknall.

FOLKESTONE.—The T.C. passed plans: F. W. Clark & Sons, owners, and T. N. Kemp & Son, architects, for eight houses in Canterbury-road; Maycock & Son, owners, and J. L. S. Dahl, architect, for house, Welson-road.

GILLINGHAM.—The T.C. passed plans: W. E. R. Randall, seven houses, two in Canadian-avenue, five in Third-avenue; L. J. Newnham, for I. Gigney, seven garages, Cross-street; W. Springett, for Mrs. Jackson,

* See also our List of Contracts, Competitions, etc.

house, Woodside; E. J. Hammond, for R. J. Mawer, house, First-avenue; T. Cornelius & Son, house, Cleave-road.

GISBOROUGH.—A scheme is being prepared for the erection of a new Roman Catholic Church.

GUILDFORD—The R.D.C. has agreed to a lay-out plan submitted by the Building Surveyor with regard to Millmead House, the future home of the Council, and it was decided that estimates of the cost of the alterations should be obtained.

HARROGATE.—The T.C. passed plans: J. Flynn, house, Arthur's-avenue; Mr. Beall, house, St. Hilda's-road; C. E. Morris, two semi-detached houses, Woodside; Amos Chippindale, two houses, Grove Park-terrace; T. Reaveley, two pairs of houses and garages, St. Nicholas-road; G. H. Carrick, house, Skipton-road; Kershaw & Hill, eight garages and six houses, Skipton-road; J. Coombes, house, Pannal Ash-road; J. T. Pickard, seven detached houses, St. Hilda's-road; C. F. Napper, five houses, Willow-grove; J. H. Owston, two houses, Westbourne-avenue; W. Peacock, house, Victoria-road; Trustees of the Primitive Methodist Orphanage, administrative block and sick wards, The Orphanage, Pannal Ash-road.

HAYWARD'S HEATH.—The U.D.C. has passed plans for the erection of 12 houses in Western-road, for Mr. Muzzell.

HEYWOOD.—The Housing Committee of the T.C. are proposing to erect 50 houses on the Darley Hall site and 50 houses at Heywood. A tender has been accepted and application is to be made to the M.H. for sanction to borrow £42,700 for the erection of the houses.

HIGH WOOD.—The M.A.B. recommend that the renewal, at an estimated cost of £350, of certain fencing at High Wood Hospital for Children as proposed, be approved.

HOVE.—The T.C. passed plans: F. Garrod, for Mrs. Coppenger, pair semi-detached houses, Norman-road; Hunter & Bedford, for W. J. Keene, two pairs semi-detached houses and garages, Berriedale-avenue; Hunter & Bedford, for C. C. Broad, five houses, The Drive; W. H. Overton, for S. W. Smee, house, Nizells-avenue; F. Brooksbank, for Mrs. Buswell, house, Braemore-road; Hunter & Bedford, for H. Elliott, two pairs semi-detached houses, Hallyburton-road; E. J. Love, for D. S. Barclay, two pairs semi-detached houses and garages, Braemore-road; Denman & Son, for Mr. Radcliffe, two pairs semi-detached houses, Colbourne-road; E. J. Love, for D. S. Barclay, three pairs semi-detached houses and garages, Berriedale-avenue; Hunter & Bedford, for F. H. Butler, pair semi-detached houses, Braemore-road; E. J. Love, for D. S. Barclay, pair semi-detached houses, Berriedale-avenue.—The T.C. has made application to the M.H. for sanction to borrow £48,940 for the erection of 100 houses on the Old Shoreham-road.

IPSWICH.—The M.H. has held an inquiry into the application of the T.C. for sanction to borrow £74,000 for works of sewerage.

KIDDERMINSTER.—The T.C. have decided to erect a public convenience in Bridge-street, at a cost of £1,100.

LANGPORT.—The R.D.C. has received the M.H. approval for (*a*) erection of 20 houses and sanction to the necessary loan of £8,823; and (*b*) provisional approval to the erection of a further 16 houses.

LATHOM AND BURSCOUGH.—The U.D.C. has approved the following plans: Proposed flats over old reading room and brewery offices, for J. Wallwork & Sons; house in Liverpool-road, for M. J. Birrell; house in Liverpool-road, for T. Stringfellow; house in Martin-lane, for G. Forshaw.

LELBURY.—The M.H. has given sanction to borrow £700 for the erection of a public convenience in Church-street.

LEICESTER.—The acquisition of the Braunstone estate of over a thousand acres, a notable accession to the landed estate of the City of Leicester, is to be added to by a £35,000 purchase of 119 acres of the Westcotes estate and 19 acres from the Wyggeston Hospital trustees at £7,500.

LONDON.—The L.C.C. Housing Committee propose to expend £305,000 in the erection of 491 houses and flats on the Downham estate, 100 of which will be built of concrete.—The M.A.B. has received the M.H. sanctions to the following: £1,975 for the provision of a house for the medical superintendent at the Fountain Mental Hospital.—Sanction to the necessary expenditure on the provision of accommodation for female assistant medical officers on the first floor of H block at the Grove Hospital.—Alterations to the discharge block at the Grove Hospital on being furnished with a satisfactory revised estimate.—Expenditure on the conversion of L block at the Brook Hospital into 32 cubicles on being furnished with a satisfactory revised estimate also.—No objection to the provision of an anæsthetist's room at Leavesden Mental Hospital.—Sanction to the necessary expenditure on the provision of accommodation for visitors at the Grove Hospital on being furnished with a satisfactory revised estimate.—No objection to the revised total expenditure on the provision of extensions to the floors of the verandahs of blocks B and C and of new entrance gates at Princess Mary's Hospital for Children and approving the acceptance of the tender of C. H. Boyd & Son, Ltd., for the execution of the work at the sum of £1,372.—Expenditure on the provision of a visitors' room at the Eastern Hospital on being furnished with a satisfactory revised costs.—Expenditure, estimated at £125, on the enlargement of certain verandahs at S. Luke's Hospital.—Sanctioning the expenditure of £1,135 for the provision of a cottage for the engineer at the Western Hospital.—The M.A.B. recommend that the roof ventilators of hospital blocks east and west at Queen Mary's Hospital for Children be removed at a cost estimated by the engineer-in-chief at £220; also that, subject to the sanction of the M.H., approval be given to the provision, at an estimated cost of £875, of a laboratory at the Fountain Mental Hospital, in accordance with the plan prepared by the engineer-in-chief.

LONDON (CAMBERWELL).—The L.C.C. recommend the borrowing by the B.C. of £1,443 for housing.

LONDON (DEPTFORD).—The L.C.C. recommend that, subject to the approval of the M.H., an agreement be entered into with the Rodney Foundry Co., Ltd., with regard to 46, 47, 48 and 49, Deptford Green, included in the Watergate-street scheme, and that such agreement do provide that the company shall convey to the Council the freehold of the strips of land forming part of the site of the premises, and the Council will undertake the provision of rehousing accommodation for the persons of the working class to be displaced.

LONDON (EAST).—The L.C.C. recommend that £525, submitted by the Finance Committee in respect of the provision of unclimbable fencing at Victoria Park, be approved.

LONDON (LEWISHAM).—The L.C.C. recommend £9,700 for the enlargement of the Athelney-street L.C.C. school Lewisham, and the provision of handicraft and domestic economy accommodation and the supply of the necessary additional furniture.

LONDON (ST. PANCRAS).—The B.C. recommend that application be made to the L.C.C. for sanction to the borrowing of the estimated cost to be borne by the Borough Council in connection with the reconstruction of the Kentish Town Road Bridge over the Regent's Canal, namely, £2,776.—The B.C. has received deposited plans showing six new sections of railway in connection with the proposed transfer of the Covent Garden Market to the site of the Foundling Hospital estate, and particulars of the lands to be acquired; also plans for a new automatic telephone exchange and new branch post office between Kentish Town-road and Kelly-street.

LONDON (STAMFORD HILL).—The L.C.C. recommend £580 in respect of alterations and the extension of the Stamford Hill Depot.

LUTON.—The T.C. passed plans: A. W. Butt & Co., Ltd., two houses, Crescent-rise; J. T. Garrett, five houses, two Argyll-avenue and three Alexandra-avenue; H. Tennant, house, Argyll-avenue; C. Jeyes, four houses, Alexandra-avenue; C. Timpson, four houses, Newark-road; H. Richardson, eight houses, one Alexandra-avenue and seven Argyll-avenue.

MALLING.—The R.D.C. has approved the following plans: Bungalow at The Heath, East Malling, for T. Wills; pair of bungalows at Blue Bell Hill, Aylesford, for W. Edmonds; cottage at Quarryfield, East Malling, for Mrs. A. G. Hore; 20 cottages at the British Legion Village; printing works, &c., and sleeping quarters for patients at Preston Hall, Aylesford; and bungalow at Pilgrim Way, Trottiscliffe, for Mrs. E. A. Bright.

MALVERN.—The R.D.C. has approved the scheme for the erection of new buildings for the School of Art on a site in Albert-road.

MANCHESTER.—A site has been secured in Scotland Hall-road, Newton Heath, for the Church Society, for the erection of 24 houses.

MIDDLESBROUGH.—The Licensing Justices have approved plans submitted by Mr. T. Thompson, for the erection of a single-story picture hall to seat 900, at the end of Eastbourne-road, for the North of England Cinemas, Ltd.

NELSON.—The final plans have been approved for the erection of a new secondary school.

NEWTON-LE-WILLOWS.—The U.D.C. propose to erect 66 houses.

NORTHAMPTON.—The C.B. passed plans: Five houses, Kettering-road, for Walker & Perrett; two houses, The Drive, A. Glenn & Sons, Ltd.; two houses, Delapre-crescent-road, Ansell & Brown; two houses, corner of Kettering-road and Tudor-road, Walker & Perrett; three houses, Queens Park-parade, A. L. & H. W. Chown; house, Park-avenue South, F. S. Jeffery; six houses, Balfour-road, A. E. Thompson; house, Boughton Green-road, A. E. Thompson; five houses, The Drive, A. Glenn & Sons, Ltd.; five houses, Harlestone-road, ten houses, Park-avenue North, and 14 houses, Gipsy-lane, A. L. & H. W. Chown; house, Balmoral-road, Thos. Wilson.

OLDBURY.—The Council has approved the demolition of 20 houses in connection with the Todd-row reconstruction scheme. It was also decided that 22 houses be erected to accommodate the displaced tenants.

PLYMOUTH.—The M.H. has sanctioned a loan for the erection of a new weights and measures office, and also approved the appropriation by the Council of a site.—The Housing Committee is applying for the appropriation of a further site at Pottery Quay for the erection of additional flats for housing.—A letter has been submitted from the M.H. with regard to the Council's application for sanction to borrow the sum of £13,250 for the extension of the bathing accommodation at the Tinside Bathing Place and stating that he was prepared to approve the carrying out of the works, subject to an amendment of the proposals which will involve an additional expenditure of £1,200, and the C.B. has resolved that the suggested amendment be approved.

PRESTON.—The members of the Guttridge Memorial U.M. Church have £1,150 funds in hand towards the new church building fund for which Mr. G. E. Bolshaw, architect, 106, Lord-street, Southport, is prepering the plans.

ROYTON.—The Charity Commissioners have approved the plans prepared by Mr. S. Moss, A.R.I.B.A., of Manchester, for the erection of the Dr. Kershaw Memorial Cottage Hospital. The members of the Lugley Broom Wesleyan Church are proposing to make extensions to their edifice, for which plans are being prepared.

RUNCORN.—The E.C. are considering the acquisition of land on the south side of Stockton Heath School for the provision of a new secondary school.

ST. ALBANS.—A new porter's lodge and offices adjoining the new entrance gateway to St. Albans Poor Law Institution, at an estimated cost of £1,450, has been decided upon by the B.G., subject to sanction of the M.H.

SANDHURST.—The Sandhurst Wesleyan Circuit propose the erection of new Sunday schools at Crowthorne and Sandhurst.

SCALBY.—The U.D.C. has passed the following plans: Two houses for Mr. Johnson, two houses for W. E. Watson & Son, bungalows for T. Gell and H. Reeder.

SHEFFIELD.—Funds are being raised by the members for the St. Hilda's Church, at Shiregreen, for the erection of a new church.

SOUTHWICK.—The U.D.C. has received the M.H. approval to the acceptance by the Council of the tender of Sparks Bros., Tarring, Worthing, for the erection of 20 self-contained flats at Fishersgate.

SOWERBY.—The District Council are to invite tenders for the erection of 40 scullery houses and 13 parlour houses on Beech Wood estate.—The Surveyor has been instructed to prepare plans and estimates for a new slaughter-house on the land belonging to the Council in Holmes-road.

SPALDING.—The U.D.C. has decided to spend £33,000 on the local gasworks.

STOCKPORT.—The High-lane Conservatives are to acquire High-lane House, which they propose to adapt for their headquarters, at an estimated cost of £1,000.

STOURPORT.—The M.H. has sanctioned the borrowing of £10,316 for the erection of 22 houses at Olive-grove.

TORQUAY.—The T.C. passed plans: House, new road off Borough-road, St. Marychurch, for W. S. Edmends; eight houses with one shop, Dalson estate, for J. Lloyd.

TOTTENHAM.—The architect has submitted plans to the B.G. for the erection of the proposed new offices and house for the superintendent.

UCKFIELD.—The U.D.C. has sanctioned the following plans: Cottage in Selby-gardens, for Mrs. F. Piper; bungalow in the Highlands estate, for B. C. Taylor.

WAKEFIELD.—The Housing Committee propose to erect 300 concrete houses and 50 brick houses during the coming year.

WORKSOP.—Plans were passed by the R.D.C. for the erection of a further 31 houses at Langold.

WORTHING.—The C.B. passed plans: Amended plan of 18 houses, St. Andrew's-road, for The Broadwater Building Co., Ltd.; house, Rowlands-road, for C. A. H. King, by F. C. Tyler; conversion of Christ Church Boys' School, Portland-road, into a parish hall, for the Parochial Church Council, by H. M. Pett; eight houses and garages, Woodmancote-road, for J. F. Goodman, by J. E. Lund; two houses, Wallace-avenue, for H. Tier & Son, by J. E. Lund; house and shop, Elm-grove, for A. M. Lyne, by H. M. Potter; house and garage, Nutbourne-road, for S. E. Merriedew, by A. T. W. Goldsmith; four houses and garages, Shermanbury-road, for W. & C. E. Parsons, by C. E. Parsons; two houses, St. Lawrence-avenue, for I. P. Freeman; house and garage, St. Valerie-road, for F. Sandell & Sons, by A. T. W. Goldsmith; four houses, Beaumont-road, for H. J. Gower and others, by W. Oley; amended plan for four houses, Waterworks-lane, for Sparks Bros.; two houses and shops, Rugby-road, at its junction with Ripley-road, for E. H. Barton; house, Broadwater-road, for Worthing Estates Building Co., Ltd., by F. G. Abell; house, Hythe-road, for S. Hales, by Sheppard & Stephenson.

YORK.—The T.C. passed plans: H. Colman & Sons two houses, Water End, Clifton; C. Tesseyman, two houses, Tang Hall-lane; W. West, two houses, Terry-street; W. E. Puckering, two houses, Carrington-avenue; Radford & Dyer, two houses, Melrosegate.

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Town Hall for Barnsley.

At a recent meeting of the Barnsley Town Council the proposal to erect a Town Hall on a site in Church-street was abandoned, and the Committee recommended that a Bill be promoted in the ensuing session of Parliament under the Corporation Act of 1914, to obtain sanction for a proposed building to face Regent-street. The estimated cost of the whole scheme was £173,210, exclusive of furnishing.

PRICES CURRENT OF MATERIALS

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

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Best Stocks	4 5 6
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Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	2 13 3	Best Blue Pressed Staffs	9 5 0
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Best Stourbridge Fire Brick:—			
2½ in.	8 11 0	3 in.	10 3 0

GLAZED BRICKS—

Best White Ivory, and Salt Glazed Stretchers	23 0 0	D'ble Str'tch'rs	31 10 0
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2 in. per yd. super	1 11	3 in. per yd. super	2 9
2½ in. " "	2 4	4 in. " "	3 6

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Thames Ballast	10 6	per yd.	delivered 2 miles radius Paddington.
Pit Sand	13 9	" "	
Thames Sand	14 6	" "	
Best Washed Sand	14 6	" "	
½ in. Shingle for Ferro-Concrete	12 9	" "	
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¼ in. Broken Brick	11 6	" "	
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Best Portland Cement. British Standard Specification. Test £3 8 0 to £3 13 6 61s. alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	0 10 0
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Plaster, Coarse, Pink	3 0 0
" " White	3 12 6
" Fine	5 12 0
Strapite, Coarse	3 9 0
" Finish	3 17 0
Grey Stone Lime	3 0 9
Chalk Lime	3 0 9
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Hair per cwt.	2 2 6
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Stourbridge Fireclay in s'cks 37s. 6d. per ton at rly. dp.

STONE.

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BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 9½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	2 11½
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Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4
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White basebed, 3d. per ft. cube extra.

NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ¼d. beyond 30 ft.

HOPTON-WOOD STONE— Delivered at any Goods Station, London.	s. d.
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YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station, London.	
6 in. sawn two sides landings to sizes (under 20 ft. super.) Per ft. super	5 6
6 in. rubbed two sides, ditto "	6 0
3 in. sawn two sides slabs (random sizes) "	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) "	1 6½
1½ in. to 2 in. ditto, ditto "	1 4
HARD YORK— Delivered at any Goods Station, London.	
Scappled random blocks Per ft. cube	6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super	5 1½
6 in. rubbed two sides, ditto "	6 1½
4 in. sawn two sides slabs (random sizes) "	2 10
3 in. ditto ditto "	2 1½
2 in. self-faced random flags Per yd. super	9 0

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4 × 11	£28 0	3 × 6	£21 0
4 × 9	25 0	3 × 11	25 0
4 × 8	24 0	2 × 11	25 0
4 × 7	23 0	3 × 9	24 0
3 × 8	21 0	2½ × 9	23 0
3 × 7	20 0	3 × 4½	22 0
2½ × 7	20 0	3 × 4	22 0

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1	×	11	£27 0	1	×	9	£26 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
⅝	20/-	1¼	31/-
¾	22/-	1½	34/-
1	25/-		

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1	25/-	⅝	16/6
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1½	34/-	1	24/-

Inches.	BATTENS.	s. d.
⅞ × 2		2 6 per 100 ft.

SAWN LATHS.

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1" AND UP THICK.

	£ s. d.	£ s. d.
Dry Austrian Wainscoat, per ft. cube	0 16 0 to 0 18 0	
Dry American and /or Japanese Figured Oak, ft. cube	0 15 0 to	—
Dry American and/or Japanese Plain Oak, ft. cube	0 11 0 to 0 13 0	
Dry sq. edged Honduras Mahogany, ft. cube	0 16 0 to 0 18 0	
Dry Log cut Honduras Mahogany, ft. cube	0 18 0 to 1 1 0	
Dry Cuba Mahogany, ft. cube	1 4 0 to 1 10 0	
Dry Teak, ft. cube	0 13 0 to 0 15 0	
Dry American Whitewood, ft. cube	0 11 0 to 0 14 0	
Best Scotch glue, per cwt.	4 10 0 to	—
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Galvanised Water	38½ %	.. 35 %	.. 45 %
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Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
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3½ in.	1/4½	1/1½	3½d.
4 in.	1/6	1/3	3½d.
4½ in.	1/7½	1/4½	4½d.
5 in.	1/10½	1/6½	5½d.

O.G. GUTTERS.

3 in.	1/8	1/4½	3½d.
3½ in.	1/8	1/4½	3½d.
4 in.	1/9½	1/4½	3½d.
4½ in.	1/11½	1/7½	4½d.
5 in.	2/4½	1/10½	5½d.

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Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/10½	1/3	1/9½
2½ in. "	2/0½	1/4½	2/1½
3 in. "	2/6	1/9	2/7½
3½ in. "	2/11½	2/0½	3/0½
4 in. "	3/5	2/6½	3/8½

L.C.C. COATED SOIL PIPES—London Prices, ex Works.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts. plain	3 3	.. 2 4½	.. 2 10
2½ in. "	.. 3 9	.. 2 7½	.. 3 7
3 in. "	.. 4 6	.. 2 10	.. 4 2½
3½ in. "	.. 4 11½	.. 3 7	.. 4 11½
4 in. "	.. 5 5½	.. 4 0½	.. 5 9

L.C.C. COATED DRAIN PIPES—London Prices ex Works.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
3 in. per yd. in 9 ft. lengths	4 4	.. 5 1	.. 8 0½
4 in. " "	.. 6 2	.. 5 8	.. 10 0
5 in. " "	.. 7 2	.. 10 10	.. 17 1
6 in. " "	.. 8 6	.. 13 2	.. 21 9

Gasken for jointing, 38/6 per cwt.

IRON—	Per ton in London. £ s. d.		£ s. d.
Common Bars	13 0 0	to	14 10 0
Staffordshire Crown Bars—good merchant quality	14 5 0	..	15 5 0
Staffordshire Marked Bars	16 5 0	..	17 5 0
Mild Steel Bars	10 0 0	..	11 0 0
Steel Bars, Ferro-Concrete quality, basis price	10 0 0	..	11 0 0
Hoop iron, basis price	12 0 0	..	13 0 0
" Galvanised	27 0 0	..	28 0 0
Soft Steel Sheets, Black— Ordinary sizes to 20 g.	13 5 0	..	14 5 0
" " " 24 g.	14 5 0	..	15 5 0
" " " 26 g.	16 5 0	..	17 5 0
Sheets Flat Best Soft Steel, O.R. & O.A. quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0	..	16 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	16 10 0	..	17 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	18 10 0	..	20 10 0

No. 1 quality £4 per ton extra.

Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	18 10 0	..	19 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	19 0 0	..	20 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	22 0 0	..	23 0 0
Sheets Galvanised Flat, Best quality— Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	22 0 0	..	23 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	24 0 0	..	26 0 0
Best Soft Steel Sheets, 26 g.	25 10 0	..	26 10 0
Cut Nails, 3 in. to 6 in.	19 0 0	..	20 0 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	41 10 0
Pipe in coils	45 0 0
Soil Pipe	45 0 0
Compo Pipe	46 0 0

NOTE—Country delivery, 30s. per ton extra: lots under 3 cwt., 3s. per cwt. extra, and over 3 cwt. and under 1 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills per ton	28 0 0	—
Do., ex country, carriage forward per ton	29 0 0	—

COPPER.

	s. d.
Seamless Copper tubes (basis) per lb.	1 1
Strong sheet "	1 0
Thin "	1 1
Copper nails	2 3
Copper wire	2 4

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

NEW RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1½ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1¼ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps	35/-	45/-	66/-	126/- "

TIN—English Ingots, 2/10 per lb. SOLDER—Plumbers 1/3, Tinmen's 1/6, Blowpipe 1/7 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil,	in pipes per gallon	0 3 0
" " "	in barrels "	0 3 1
" " "	in drums "	0 3 3
Boiled " "	in barrels "	0 3 3
" " "	in drums "	0 3 6
Turpentine	in barrels "	0 5 3
"	in drums (10 gall.) "	0 5 5
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		50 15 0
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco." "J" Brand and other best brands (in 14 lb. tins) not less than 5 cwt. lots per ton delivered		70 5 0
Red Lead, Dry (packages extra)	per ton	42 0 0
Best Linseed Oil Putty	per cwt.	0 15 0
Filacol	"	0 15 6
Size. XD Quality	"	0 3 6

Continued on next page

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PRICES CURRENT OF MATERIALS (*contd.*).

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per ft.		Per ft.
15 oz. fourths ..	3½d.	32 oz. fourths	7½d.
15 „ thirds	4½d.	32 „ thirds	9½d.
21 „ fourths ..	4½d.	Obscured Sheet, 15 oz...	3½d.
21 „ thirds	5½d.	„ „ 21 „ ..	5½d.
26 „ fourths ..	5d.	Fluted 15 oz. 6½d., 21 oz.	9½d.
26 „ thirds	7½d.	En'lled 15 oz. 5½d., 21 oz.	7½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft
⅛ Rolled plate	4½d.
¼ Rough rolled	5½d.
½ Rough rolled	6d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White..	6½d.
Ditto, tinted	9½d.
Rolled Sheet	6½d.
White Rolled Cathedral	6½d.
Tinted Do.	8½d.

Cast Plate is same price as rough rolled.

VARNISHES, &c.

		Per Gallon. £ s. d.
Oak Varnish.....	Outside	0 14 0
Fine ditto.....	ditto	0 16 0
Fine Copal	ditto	0 18 0
Pale Copal	ditto	1 0 0
Pale Copal Carriage	ditto	1 4 0
Best ditto.....	ditto	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal Flatting	ditto	1 0 6
Hard Drying Oak	ditto	0 18 0
Fine Hard Drying Oak.....	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 0
Pale ditto	ditto	1 2 0
Best ditto	ditto	1 12 0
Best Japan Gold Size		0 12 6
Best Black Japan		0 10 6
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black.....		0 7 6
Berlin Black.....		0 14 6
Knotting (patent)		1 5 0
French and Brush Polish		0 17 0
Liquid Dryers in Terebine		0 9 0
Culrose Black Enamel		0 7 0

BUSINESS FIRM'S CLUB DINNER

The twenty-third annual dinner of the Waygood-Otis Club was held on Saturday, December 11, at Pagani's Restaurant, Great Portland-street, W.1, Mr. D. W. R. Green presiding over a gathering of about 100. After the customary loyal toast had been honoured, the chairman, proposing the toast of the "Waygood-Otis Club and Officials," said the club started its career on a very indifferent ground and with a small membership, at Nunhead Fields, and had progressed year by year until the membership now totalled several hundreds. The directors of the firm had within the past few months acquired and presented to the club its new ground at Elmers End, on which they had also erected a pavilion. He urged them to make good use of the club, so that it should figure as a club of real standing. Mr. S. Kirton, in reply, said the new ground at Elmers End was in good working order, and he hoped that during the ensuing year it would make better progress. On behalf of the members he thanked the directors for presenting them with such a magnificent ground and pavilion. Mr. A. Nunn, proposing the toast of the "Waygood-Otis Company," said the firm had always been sympathetic towards the wants of its employees, who were deeply appreciative of all that had been done for them, especially in regard to the Old Age Pension scheme, the Savings and other schemes. Mr. C. Clarke, in response, said, speaking on behalf of the directors, he desired to express their appreciation of the energy and intelligent effort that the employees put into the business year by year. The strength of the Company and the expansion of the business were due to each man, in each section, pulling his full weight. Mr. C. Cousins proposed the concluding toast, "The Chairman," to which the Chairman replied.

THE SCOTTISH BUILDER

EDINBURGH CENOTAPH SITE

A sub-committee of the Lord Provost's Committee of Edinburgh Town Council has had under consideration a letter from Colonel A. S. Blair, hon. secretary of the Edinburgh Citizens' Cenotaph Committee, in which it was stated that that Committee had unanimously resolved to ask the Town Council to sanction the erection of the proposed cenotaph in St. Giles'-square, opposite the west door of St. Giles' Cathedral. This suggestion would involve the removal of the Buccleuch statue. The sub-committee, after discussion, resolved to recommend that the Magistrates and Council should agree to the erection of the cenotaph at the spot suggested, on the understanding that the Cenotaph Committee would obtain the approval of all parties interested.

NEW BUILDINGS IN SCOTLAND

Glasgow.—CINEMA.—Mr. Chas. J. M'Nair, 112, Bath-street, is the architect for the new supercinema to be built at Well-road, Maryhill-road, by the Blythswood Picture House, Ltd.

Turriff.—HOUSES.—A special meeting of the Town Council to consider amended plans for six new houses, submitted by Mr. Alexander Fordyce, builder, Turriff, the Council has agreed to accept Mr. Fordyce's plans for eight three-roomed houses, subject to the approval of the Board of Health.

Midlothian.—HOUSING.—The County Council sanctioned a loan of £40,000 to the Calder District Committee in connection with their housing scheme.

Aberdeen.—RECONSTRUCTION.—The Town Council has entered into a provisional arrangement with the London & North-Eastern Railway Company for the reconstruction of the Fish-street bridge on the basis of the cost of the bridge not exceeding £15,000.

Perth.—STORAGE.—Plans for a proposed cold storage and ice factory to be erected at the Shore, have been passed by the Dean of Guild Court. The petitioner was Mr. William Milne. The factory will cost about £20,000.

Dundee.—EXTENSION.—A £70,000 scheme for the extension of Dundee Esplanade has been proposed by the Works Committee of Dundee Town Council.

Gartly.—HALL.—It has been decided to erect a Public Hall in the parish of Gartly on the nearest available site to the Central School, and a committee has been appointed to negotiate matters.

Edinburgh.—SWIMMING POND.—A sub-committee of the Edinburgh Town Council had before them a report by the Electricity Committee regarding the formation of a culvert from the power station at Portobello to the sea, and the construction of a pier to form a superstructure to the culvert. The Committee approved generally of the proposed work, and resolved to recommend that application be made for a Provisional Order to authorise the construction of a pier and the laying of a pipe, and also the formation of an open-air swimming pond. The Burgh Engineer has estimated the cost at £100,000 all told.

Hoardings in the Highlands.

At a recent meeting of Inverness County Council, the Mackintosh of Mackintosh, who was re-elected Convener on the motion of Lord Lovatt, said that disfigurement of the countryside by the erection of advertisement hoardings had been receiving the attention of the County Road Board, who recommended that steps be taken towards having them removed. The Road Board's recommendations were unanimously adopted.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons', Bricklayers', Plasterers'.
Aberdeen	1/8	1/8½	1/8	1/8	1/8	1/8	1/7	10½d. to 1/1
Airdrie	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3
Alexandria.....	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2½ to 1/3
Arbroath	1/7	1/7	1/7	1/7½	1/7	1/7	1/5½	1/1½
Ayr	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3
Bathgate	1/8	1/8	1/8	1/8½	1/8	1/8	1/6½	1/2 to 1/3
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Coatbridge.....	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3 to 1/3½
Dumbarton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dumfries	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dundee	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Dunfermline	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Edinburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Falkirk	1/7½	1/7½	1/7	1/8	1/7	1/7	1/6½	1/2½
Fort William.....	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Glasgow	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Greenock	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/0½ to 1/3½
Hamilton	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Hawick	1/7	1/7	1/7	1/7-1/7½	1/7	1/7	1/7	1/2½
Helensburgh	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½
Inverness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/- to 1/2
Kilmarnock	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkcaldy	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkwall.....	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanark	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/0 to 1/3
Leith	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Motherwell.....	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Perth	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3
Stirling	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Stirlingshire (Eastern District)	1/8-1/10	1/8 1/10	1/8	1/9	1/7	1/8	1/6½	1/3½
Wishaw	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 1009.

CURRENT PRICES FOR BUILDING WORK IN LONDON

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	38	0
Add if in underpinning in short lengths	" "	7	0
Add if in floors 6 in. thick	" "	3	3
Add if in beams	" "	3	9
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	32	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	10	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft super	0	0	1½

POINTING.

		s.	d.
Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	4	3
Three-quarter-inch vertical damp course	" "	8	6
¾ inch on flats in two thicknesses	" "	6	3
Angel fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	2

MASON.

		s.	d.
York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Portland stone fixed	" "	20	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	5	0
Do. joists	" "	5	6
Do. roofs, floors, and partitions	" "	6	0
Do. trusses	" "	8	6

	¾"	1"	1¼"	2"
Deal rough close boarding per sq.	35/6	40/-	45/-	72/-

		s.	d
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	1	0
Centres for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.

	¾"	1"	1¼"	1½"
Deal-edges shot per sq.		44/6	53/-	60/6
Do. tongued and grooved "		49/-	57/6	65/-
Do. matchings "	45/-	51/-		
Moulded skirting, including backings and grounds per ft. sup.	1/6	1/9	2/0	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super.	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	" "	3	9

DOORS.

	1¼"	1½"	2"
Two-panel square framed per ft. sup.	2/1	2/4	2/6
Four-panel Do. "	2/5	2/8	2/11
Two-panel moulded both sides "	2/8	2/11	3/2
Four-panel Do. Do. "	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

	1"	1¼"	1½"
Plain deal jamb linings framed per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers "	1/4	1/6	1/8
Add if cross-tongued "	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail: average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	"	19	0
Do. stanchions	"	21	9
In roof work	"	27	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do.	"	1/9	2/-	2/6	3/3
Rain-water pipes with ears	"	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	57	6
Do. Do. in flats	"	56	6
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	" "	1	6
Copper nailing	" "	0	6

	½"	¾"	1"	1½"	2"	4"
Drawn lead waste per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service "	1/8	2/2	2/7	3/10	—	—
Do. soil "	—	—	—	—	—	6/9
Bends in lead pipe each	—	—	—	—	3/3	8/3
Soldered stop ends "	1/2	1/8	2/1	2/10	3/6	—
Red lead joints "	11d.	1/-	1/3	1/11	2/4	1/10
Wiped soldered joints "	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws "	—	—	—	14/7	19/6	-
Bib cocks and joints "	6/4	9/7	15/4	41/-	—	-
Stop cocks and joints "	15/4	17/2	25/8	64/-	—	-

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	4
Do. Do. Sirapite	" "	2	9
Do. Do. Keen's	" "	4	0
Add sawn lathing	" "	1	7
Add metal lathing	" "	2	6
(Not including hangers or runners, &c., for suspended ceilings.)			
Portland cement screed	per yard sup.	2	2
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	9

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	0	8½
26 oz. Do.	" "	1	0
Obscured sheet	" "	1	1
¼ in. rolled plate	" "	0	9
¼ in. rough rolled or cast plate	" "	0	10½
¼ in. wired cast plate	" "	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10 % on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

MARKET EXTENSIONS AT SPITALFIELDS

THE Lord Mayor of London laid on Monday last the foundation stone of the extension of Spitalfields Market. At present the area is about 2¾ acres, and when the new work is finished the market will cover five acres, and London will possess the most up-to-date fruit and vegetable centre in the country. Not only is the market area being extended, but considerable street improvements are part of the scheme, and the total area of the roads when widened on three sides of the market will be about 2¾ acres. Parts of these roads will be used as "lay-byes," thus further facilitating the business of Spitalfields, which is already the largest banana market in the kingdom. Lamb-street, on the north, which was about 23 ft. wide, has been temporarily widened to 36 ft., and will ultimately be made 60 ft. wide; Brushfield-street, on the south of the extension which is now about 31 ft. wide, will also be widened to 60 ft.; Crispin-street, on the west side of the present market, is being built upon and included in the market, and Steward-street, on the west, now about 33 ft. wide, will be made 80 ft. wide. The acquisition of properties in connection with the improvement, at a cost of over £500,000, will permit of a market extension of 98,220 ft. super on the ground floor and of 101,440 ft. super in the basement as a result of tunnelling under the existing market. On three sides of the extension, 34 warehouses with storage space above and below will be erected, and the total frontage of the market will become about a third of a mile.

In order to permit the free circulation of traffic in the market, the interior will be divided into main avenues 25 ft. wide, and others 20 ft. wide, and to these there are to be five entrances from Lamb-street, five from Brushfield-street, three from Commercial-street, and three from Steward-street. The contractors are Messrs. John Mowlem & Co., Ltd. The architect is Mr. Sydney Perks, the City Surveyor.

L.C.C. Building Contracts.

Contractors for building works for the L.C.C. are in future to be given the option of tendering with or without the inclusion of an "up and down" wages clause. This decision has been reached by the Council's General Purposes Committee after considering the subject at the request of the Minister of Health. Three years ago the Council resolved that no provision should be made in contracts for adjustment of the contract price in respect of variations in rates of wages, hours of labour, or the price of materials, but on representations made by the London Master Builders' Association the resolution was suspended in contracts over £3,000 in value so far as it affected wages. Experience as regarded housing work showed, however, that refusal to consider tenders qualified as to wages only resulted in very few or no effective tenders being received, and as regarded building work generally that only a very limited number of contractors submitted tenders, usually non-federated firms.

South African Move in Direct Labour.

The trade unions connected with the building industry in South Africa have launched an experiment with the aim of taking practical control of the industry in that country for the workers engaged therein. A company entitled the Association of Building Trades, Ltd., has, it is understood, been formed, which will undertake contracts such as are at present handled by private enterprise.

New Sugar Beet Factory.

A site of 70 acres of land adjoining the Olympia Oil and Cake Mills at Selby, and near the River Ouse, has been secured for the purpose of erecting a new and up-to-date sugar beet factory at a cost of £450,000. It is understood that the scheme is to be proceeded with at once.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*. † Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.

AUDENSHAW.—Boys' cloakroom, &c., at the Central Day school in Audenshaw-road, for St. Stephen's Parochial Church Council:—

*E. G. Marshall & Sons	£377 6

BATH.—Conversion of the Park Farm into dwellings, for the T.C.:—

*F. J. Amery & Son	£770 16 4

BATH.—Alterations to the Old Sessions Court, for the T.C.:—

*F. J. Amery & Son	£742

BATH.—Cow shed on the High Common, for the T.C.:—

*F. J. Amery & Son	£366 11 6

BATH.—Modernising the w.c.'s adjoining No. 3 Committee Room, and the Magistrates' room, for the T.C.:—

*F. J. Amery & Son	£110 10

BEESTON.—Eight semi-detached houses at Chatswood-crescent, Old-lane:—

*Wm. Bromley.	

BLACKPOOL.—Sixteen houses in Mather-street, for the C.B.:—

*Middleton & Co.	

BOOTLE.—Alterations to provide new lavatory accommodation for ladies on the second floor at the Town Hall, for the T.C.:—

*W. A. Gale, Bootle	£195

BURTON-UPON-TRENT.—Eight houses on the High Bank-road site, for the T.C.:—

*F. Caulton, Burton-upon-Trent	£4,160

COMPTON BISHOP.—Isolation hospital at Compton Bishop, near Axbridge, Somerset, comprising administration, scarlet fever, diphtheria, observation, laundry, and disinfecting blocks, together with roads, drains, fences, &c., for the Axbridge, Burnham and Highbridge Joint Isolation Hospital Committee. Messrs. A. J. Pictor & Hinton, F. & A.R.I.B.A., 14, Queen-square, Bath:—

Jesty & Baker, Weymouth	£12,900 0 0
T. Conway, Ltd., Weymouth	12,797 0 0
F. J. Blackmore & Son, Bath	12,616 0 0
C. T. Tucker, Bristol	12,442 0 0
H. C. Wakefield & Sons, Bristol	12,172 5 6
Ford & Son, Cheddar	12,150 0 0
Burston & Hawkins, Clevedon	12,116 5 11
F. & E. Small, Taunton	11,997 0 0
Stansell & Son, Taunton	11,900 0 0
R. Wilkins & Sons, Bristol	11,888 0 0
W. T. Nicholls, Ltd., Gloucester	11,457 0 0
E. Walters & Sons, Bristol	10,914 0 0
E. G. Padfield, Son, & Co., Ltd., Shepton Mallet	10,892 7 0
C. Bryer & Son, Ltd., Bridgwater	10,890 0 0
J. Moore & Co., Ltd., Nailsea	10,364 14 10
†Building & Public Works Construction Co., Ltd., Swindon	9,789 0 0

COWDENBEATH.—Painting work in connection with the erection of 56 houses at Stevensonsbeath, adjoining Stenhouse-street, for the T.C. Mr. C. A. Alexander, Burgh Surveyor:—

And. Hutton & Son, Dunfermline	£608 0 6
Logan & Gray, Edinburgh	520 0 0
Alex. Ferguson, Cowdenbeath	435 1 2
David McQuan, Dunfermline	402 18 2
William Russell, Dunfermline	402 4 9
James Adger, Cowdenbeath	390 3 6
P. McKeracher & Sons, Glasgow	378 14 3
*A. T. Rolland, Cowdenbeath	374 7 1

DUDLEY.—Twelve houses on the Cradley-road site, for the T.C.:—

*Eadie Towers & Co	£5,400

EDINBURGH.—External painting at housing area in Abercorn, for the T.C. Mr. E. J. MacRae, A.R.I.B.A., City Architect:—

*P. & J. Gordon, Edinburgh	£470 19 5

EDINBURGH.—Alterations to house at Bloomiehall Park, Juniper Green, for the T.C. Mr. E. J. MacRae, A.R.I.B.A., City Architect; quantities by Mr. J. Govan, 22, Hill-street:—

*A. Thomson, Edinburgh	£259

HEREFORD.—500 yds. of unclimbable iron fencing on the Portfields site adjoining the Union Walk, for the C.C.:—

*Bayliss, Jones & Bayliss, Wolverhampton	£175

HEXHAM (NEAR).—Alterations and additions to Slaley Council school, near Hexham, for the Northumberland E.C. Mr. C. Williams, Director of Education The Moothall, Newcastle-upon-Tyne:—

*A. Hall, Steel, Riding Mill-on-Tyne	£1,321 1 9

HORNSEY.—Thirty-two houses in Rectory-gardens, for the T.C.:—

*J. Willmott & Sons (Hornsey), Ltd.	£15,742 (Subject to M.H. approval.)

HORSFORTH.—Four semi-detached houses at Tinshill-lane:—

*G. W. Petty.	

HOVE.—100 houses on the Old Shoreham-road site, for the T.C.:—

‡James Bodle, Ltd., Eastbourne	£48,940

LAINDON.—Alterations and additions to the "Fortune of War" hotel, for Messrs. Ind Coope & Co., Ltd., brewers, Burton-on-Trent. Messrs. Banks-Martin, Hammond & Co., architects, 40, High-street, Romford:—

C. R. Price, London	£5,974
Luton & Son, London	5,596
A. Monk, Edmonton	5,120
F. W. Jarvis, Brentwood	4,927
T. Lowe & Son, Burton-on-Trent	4,897
F. J. French, Chelmsford	4,780
Flaxman & Sons, Ltd., Southend	4,732
Baker, Hammond & Laver, Ltd., Rainham	4,710
Woollaston & Co., Bow	4,690
H. Potter, Chelmsford	4,547
*H. E. Jerram, East Ham	4,520

LINCOLN.—Forty-four houses at Skellingthorpe-road site, for City Council:—

*E. Blank	£21,759 12

LONDON.—Rebuilding the Upper North-street school, Poplar, for the L.C.C.:—

Griggs & Son	£28,606 0 0
W. J. Maddison, Ltd.	27,478 0 0
Thomas & Edge	27,343 0 0
W. Harbrow, Ltd.	27,150 0 0
R. Woollaston & Co.	26,974 8 9
A. E. Symes	26,277 0 0
T. D. Leng	25,867 0 0
L. H. & R. Roberts	25,740 0 0
F. & T. Thorne	25,394 0 0
‡F. R. Hipperson	24,381 0 0

(All of London.)

LONDON.—Enlargement of Highbury-hill High School, Islington, and the supply of the necessary furniture, for the L.C.C.:—

Arthur Vigor, Ltd.	£46,836
Holland & Hannen and Cubitts, Ltd.	45,918
Thomas & Edge	45,400
Holliday & Greenwood, Ltd.	44,980
J. Garrett & Son	44,720
Griggs & Son	44,629
E. A. Roome & Co., Ltd.	43,351
Patman & Fotheringham, Ltd.	43,317
Wm. Moss & Sons, Ltd.	43,102
Leslie & Co., Ltd.	41,861
L. H. & R. Roberts	41,730
Chessums, Ltd.	40,593
‡C. P. Roberts & Co., Ltd.	38,600

The architect's comparable estimate, £41,703

(All of London.)

LONDON.—Messroom for domestic staff, &c., at the Eastern Hospital, for the M.A.B.:—

J. Darch, Ltd.	£1,395 0 0
A. Logan	1,299 0 0
E. Proctor & Sons	1,298 0 0
Burnand & Pickett, Ltd.	1,254 0 0
A. C. Mackinlay	1,161 6 6
‡W. S. Sharpin	1,135 0 0

(All of London.)

LONDON.—Changing and messroom accommodation, &c., at the Colindale Hospital, for the M.A.B.:—

J. Darch, Ltd.	£225
A. Logan	222
J. Dennis	219
J. Hocking & Co.	197
J. W. Buckingham & Sons	180
‡Blyth, Ltd.	173

(All of London.)

LONDON.—New central schools at Holland-road, Brixton, and Carnac-street, Norwood, and the supply of the necessary furniture, for the L.C.C.:—

J. Carmichael (Contractors), Ltd.	£47,780 0 0
Leslie & Co., Ltd.	47,462 0 0
Rice & Son	46,932 0 0
Thomas & Edge	46,875 0 0
W. Akers & Co., Ltd.	46,613 0 0
G. Parker & Sons, Ltd.	46,353 0 0
G. E. Wallis & Sons, Ltd.	46,245 0 0
A. Vigor, Ltd.	45,980 0 0
F. & H. F. Higgs, Ltd.	45,866 0 0
J. & C. Bowyer, Ltd.	44,893 0 0
J. Garrett & Son	44,884 0 0
W. Moss & Sons, Ltd.	44,869 3 4
Higgs & Hill, Ltd.	44,593 0 0
Galbraith Bros., Ltd.	44,300 0 0
‡A. Monk, Lower Edmonton	42,785 0 0

The architect's comparable estimate, £44,254.

(All of London.)

LUTON.—Second portion of the engine room at the Sewage Pumping Station, for the T.C.:—

*Luton Building Co.	£3,557

MANSFIELD WOODHOUSE.—Structural alterations at the Council Offices, Station-street, for the U.D.C. Mr. A. Mayhall, Clerk:—

H. Blackenbury, Nottingham	£1,496 0 0
Handly & Munn, Mansfield	1,175 0 0
H. James, junr., Mansfield	1,163 0 0
C. C. Stafford, Mansfield	1,079 0 0
Blythe & Son, Mansfield	1,068 15 0
A. Mason, Mansfield	1,063 4 0
A. R. Roe, Mansfield	1,040 16 5
H. Rouse, Mansfield Woodhouse	1,038 0 0
Chas. H. Hill, Mansfield	1,024 0 0
*H. Ashley, Mansfield Woodhouse	974 0 0

MANCHESTER.—Building of a parochial hall for the Committee of St. Benedict's, Bury New-road, Broughton. Mr. H. A. Yearsley, architect, 25, Market-street:—

*H. Wilding, Manchester.	

MANCHESTER.—Extension to the premises of St. Benedict's, Bury New-road, Broughton. Mr. H. A. Yearsley, architect, 25, Market-street :—
*H. Wilding, Manchester.

NEWQUAY.—Iron work required in connection with the construction of a ferro-concrete promenade, for the U.D.C. :—
*British Reinforced Concrete Co..... £167

OXFORD.—Supply and fixing fencing at the Harcourt Green, Raleigh Park, for the T.C. :—
*Billings & Co., Oxford..... £172 16

PENRITH.—Fifty houses, for the R.D.C. :—
*J. Armstrong & Sons, Low Hesket £25,896 5

PLYMOUTH.—Works at new Secondary schools, for the C.B. :—
Sutton Secondary School—
*Elliott & Tallemy, Ltd..... £1,064 16 2
Stoke Damerel Secondary School—
*Elliott & Tallemy, Ltd..... 665 4 3

ROMFORD.—Rebuilding of an outbuilding attached to 8, Laurie-square, for the B.G. Messrs. Harrington & Evans, architects and surveyors, 10, High-street :—

W. H. C. Heath & Son, Seven Kings..	£680
Finch & Sons (Ilford), Ltd., Romford..	650
A. Partridge, Romford	590
S. Davies, Romford.....	560
F. Willmott, Ilford.....	481
*Myall Bros., Ilford.....	460

STANLEY (YORKS).—Structural alterations at the Outwood Council schools, for the E.C. :—
*M. Richardson.

SUNDERLAND.—School on the Barnes estate, to accommodate 966 pupils for the E.C. :—
*Henderson Bros.

TONBRIDGE.—Forty-one cottages on the Lodge Oak estate, for the U.D.C. Mr. W. Laurence Bradley, engineer and surveyor, The Castle :—

*Lewis Thorpe, Southborough—	Per cottage.
Eight pairs	£477 16 0
Eight pairs	399 18 0
Three blocks of three.....	320 6 3

WALLASEY.—140 houses in Lateral-road, for the T.C. :—
‡W. E. Hughes..... £66,879 10 5
(In lieu of Calway Construction Co.)

WAKEFIELD.—Alterations and conversion of shop premises in Westgate into banking premises, for Lloyds Banking Co., Ltd. :—
*S. Hall.

WEDNESBURY.—Four houses on the Little Hill site, for the T.C. :—
‡F. J. Emery, Walsall..... £2,100

WINCHCOMB—Repairs and decorations to the Poor Law Institution, for the B.G. Mr. L. B. Barnard, architect, 13, Promenade, Cheltenham :—
*A. Stone £115 5 8

WOLSTANTON.—Construction of a culvert in Mile House-lane, for the U.D.C. Mr. A. Cotton, engineer and surveyor, Council House, Wolstanton, Stoke-on-Trent :—
*J. E. Riley, Stoke-on-Trent.... £145 5 6

WORTHING.—Thirty-seven parlour and 51 non-parlour type houses on the Ham-road site, for the C.B. :—

W. Jones & Co., London.....	£52,785 0
J. B. Edwards & Co., Piccadilly	47,432 0
J. Bodle, Ltd., Eastbourne....	46,493 0
Bull & Co., Brighton.....	46,132 0
F. Sandell & Sons, Worthing....	45,793 0
S. W. Phillips & Co., Worthing..	45,350 10
A. Clare, Worthing.....	43,611 0
H. Tier, Worthing	43,510 0
*F. T. Wilson & Sons, Brighton..	41,714 0
P. Fewtrell, Worthing	40,834 0
Jenner & Smith, Worthing	39,258 0

YARMOUTH (I.O.W.).—New buildings, reinforced concrete piles and raft in proposed new entrance buildings to Yarmouth Pier. Mr. E. L. Smith, P.A.S.I., architect and surveyor, Broadway, Sandown :—

Simplex Concrete Pile Co., Ltd., Southampton	£3,329 0 0
J. Croad, Portsmouth.....	2,650 0 0
H. Moger, East Cowes, I.W...	2,068 17 6
Twymans, Freshwater, I.W...	2,605 14 10
*W. Downer, Totland Bay, I.W.	2,065 0 0

YORK.—Alterations to the City Arms at The Market, for Corporation :—
*F. Shepherd & Son, Ltd..... £498

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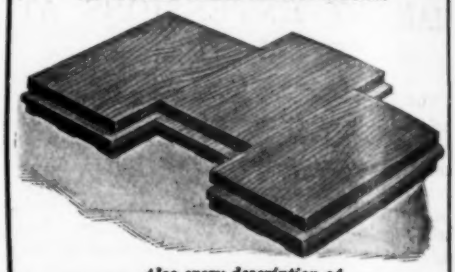
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